Jacob Waldburg

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THE SOUTHERN AGRICULTURIST.

(NEW SERIES.)

Vol. II. FOR JUNE, 1842. No. 6.

AN ADDRESS ON AGRICULTURE,

DELIVERED BEFORE THE ALABAMA STATE AGRICULTURAL SOCIETY,

ON 7TH DECEMBER, 1841.

By the Rev. Dr. MANLY.

The constitution and history of this world show the absorbing importance and dignity of Agriculture. The Almighty, Maker of all men, has himself marked it with the loftiest designation.

It is the first of all employments,—the basis and support of all the rest. To a flourishing agriculture, accessible somewhere and by some channel, every branch of business is indebted for its success. Solomon spoke not a wiser, truer maxim, than, "The King himself is served of the field." The history of the world, ancient or modern, does not present an example of a nation rising to permanent power and greatness, in the neglect of its Agriculture; while numerous instances are on record, illustrating the connexion between improved tillage and national prosperity. Egypt, Assyria, Persia, Phœnicia, Palestine, China, and ancient India, all grew great by this means, and to the power of their governments respectively, they brought in the sanctions and aid of religion, to promote individual application and improvement in the cultivation of the earth. China, in particular so remarkable in the history of the human race, has perpetuated her acknowledgments and deference to Agriculture, in a pompous annual ceremony, in which the King and all the Nobles, in presence of vast multitudes, perform with their own hands a certain routine of the labors of Husbandry.

Many of the Laws given by the Almighty to the ancient Israelites, had a direct tendency, not only to preserve them an Agricultural people, but to effect a steady improvement in various branches of Husbandry.

Among modern nations, I know of no exception to the important agency of Agriculture, in conferring permanent prosperity.

France had probably remained still in poverty and ignorance, but for the sagacity of Henry the IVth, and his great prime Minister, Sully, directing the industry of the country to the culture of silk; of which, beside her own consumption, she now exports to the value of $25,000,000. An expression of the celebrated Sully, is as true as remarkable; "Agriculture may be regarded as the breasts, from which the State derives support and nourishment."

The encouragement given to foreign Agriculturists to settle in her dominions, added to the schools established by Catharine II, not only introduced Russia to notice among the civilized nations, and substituted, instead of the few straggling fishermen's huts on the banks of the Neva, the most splendid capital in the world,—but was the primary step in the acquisition of that colossal power she now wields.

Similar remarks may be made of Sweden, of Flanders, and of Austria. The soil of Flanders, seven hundred years ago, was a white sand. It is now the richest country in Europe. And Austria has testified her sense of the importance of Agriculture, by causing medals, with appropriate devices, to be struck in honor of it, and distributed among her people, bearing this inscription, "*The art which nourishes all other arts.*"

Although the Agriculture of England is highly improved, it may be supposed that she owes her prosperity and power rather to her commerce and manufactures than to it. By what criterion shall we judge? If we analyze the resources and income of a nation, in which every species of property is brought under direct taxation, will not the proportion derived from the different branches of her industry, show the degree in which she is indebted to each? This would seem to be a true test, both as to individuals and nations.

Look, then to the statistics of Great Britain during her long wars with France, that ever memorable period which tasked her energies, and elicited efforts, to a degree unparalleled on the arena of National strife. Look at her, at the very time when her sagacious adversary, Buonaparte even, thought her resources so dependent on trade, as to apply to her the contemptuous epithet, "A nation of shopkeepers."*

From official returns of the tax on income, as derived from the various classes of subjects, we have the following curious results:

Tax on landed property, - - - - -	£4,257,247
" on the Farmers or occupants of land, -	2,176,228
Total Agriculture, - - - - - -	£6,433,175
Tax on Commercial property, - - -	£2,000,000
" on professions, - - - - - -	1,021,187
	£3,021,187
Difference in favor of Agricultural classess, -	£3,412,288

With a clearness of demonstration, therefore, that cannot be confuted, you see in the words of Sir John Sinclair,† "It was the wealth arising from the productions of the soil that chiefly enabled

* "Une nation de boutiquiers."
† Code of Agriculture.

us to go on; it was successful Agriculture that furnished us with the means of carrying on the contest, and of bringing it to a triumphant conclusion."

Nor is this at all surprising, when it is considered that it is the land which furnishes the raw material for the greater part of manufactures; that the proprietors and occupiers of lands supply the best markets to the manufacturers and the merchants; and that thus, through them, the greater part of all other professions gain their livelihood. Exported manufactures are, in fact, but so much beef, mutton, wheat, barley, &c. converted into another and more convenient shape for the purpose of general exchanges.

In England, to quote the same high authority, (Sir John Sinclair) it is a well established maxim, "*That the land is the basis of national wealth*," and "that on the amount and the value of its productions, commerce and manufactures and the payment of the public creditors must, in a great measure depend."

Hence "nothing can be more impolitic than to neglect the adoption of any measure by which the interests of Agriculture can be promoted; or more hazardous than to take any step by which its prosperity can be impaired, or those who live by it impoverished."

As to our own country, the results of the late census, the most perfect that has ever yet been taken, have yet but partially been made public. An appeal to those results, so far as known, triumphantly establishes the position we have taken. The entire population of the State is 590,756. Of these, 253,532 are slaves. Devoted to Agriculture directly, there are, 177,439 persons. To all other pursuits, put together, including the deaf and dumb, the insane and blind, there are 12,823. It is then true that thirteen fourteenths of our working population live by Agriculture *as a pursuit*.

Of the revenue of the whole country it is said, that nine tenths is paid, directly or indirectly by Farmers. In a sense then, peculiar to the United States, may it be said that "the land is the basis of national wealth."

What are the signs of national wealth and prosperity? Money, even gold and silver, is certainly equivocal. Else, how does it happen that Mexico and South-America are steadily growing poorer and poorer? The history of the world does not furnish an example of a country which has devoted its chief industry to mining for the precious metals, but what has become gradually impoverished. The brief annals of the Gold-diggers in North-Carolina, are an epitome of those of the whole tribe.

You may get the story from some who are now in Alabama,—come here to retrieve, if possible, their broken fortunes; and to atone, by a life of toil in other pursuits, for having excited, corrupted, impoverished and ruined not only themselves, but also a population the most simple, tranquil, and inoffensive; and for having desolated a region which had before yielded a bountiful

subsistence, and all the comforts of life, to the honest and hardy tillers of the soil. Truly, in the holes they dug for gold, they left buried the independence and happiness of the people.

In like manner, large Cities, busy Factories, extended Commerce prove nothing as to the wealth and prosperity of a country, except as they also prove a flourishing condition of Agriculture associated with them somewhere, and giving them its support.

The great pecuniary pressure from which we are not, even now, recovered, began when men, leaving the quiet pursuits of rural life, rushed in great numbers into the towns and cities for the purpose of speculation, in the insane pursuit of sudden wealth. For a time, the value of town and city property seemed marvellously increased. The growing wealth of the distempered inhabitants was reckoned by millions. A few years have stripped off the glowing drapery from the bloated carcass; society seems now to be returning to its natural healthy proportions; and the general conspiracy against the universal law of our being, "In the sweat of thy face shalt thou eat thy bread," is about to be dissolved. These things are of the current history of the times, of which all are aware.

On the other hand, the description of a country enjoying the advantage of improved Husbandry is the very picture of wealth and happiness. Hear the description of National prosperity drawn by the pen of Inspiration.* "That our sons may be as plants grown up in their youth; that our daughters may be as corner-stones polished after the similitude of a palace; that our garners may be full, affording all manner of store; that our sheep may bring forth thousands and ten thousands in our streets; that our oxen may be strong to labor; that there be no breaking in, nor going out; that there be no complaining in our streets. Happy is that people that is in such a case."

Nor is this the only attestation, by some hundreds, which the scriptures afford of the identity of national prosperity with a flourishing Agriculture. The common sense, the common judgment of mankind has set it down as one of those constitutional truths which needs but to be stated to be believed. In passing through a country, if you everywhere see substantial, well arranged farm-houses, clean and ornamented yards, cultivated gardens, fields subjected to meliorating tillage, perfect enclosures, fat domostic animals quietly feeding in the pastures, the men at work abroad, and female industry plying its busy hum within, does any one need a prompter to tell him that that is a prosperous and happy country? Could any reasoning or calculation make him believe otherwise? On the other hand, see shabby and irregular buildings, located so as if there had been a shower of houses one day; shackling fences; fields overgrown with weeds; lean, long-nosed, dog-bitten swine, grumbling and peering around; animals straying on the common,

* Ps. 144, 12—15.

yoked, or side-lined, or hobbled; the windows of the dwelling furnished with paper panes, or the end of an old pillow stuck in to keep out the weather; a small barn, and a large drunkery;—you do not need to see the people, to learn their occupation, or to study their history; you know that they are strangers alike to thrift and to happiness. The tall factory rising amid this negligence, the overgrown and bloated city, an occasional palace with all its aristocratic splendors, cannot alter the mournful impression which the thoughtful traveller would receive.

Agriculture is the natural resource of all men who are out of employment. It would seem as if the common Father of mankind, aware how machinery would be substituted for human hands, and how in the progress of science, whole employments would be superseded by new inventions, and thus many channels of support laid dry, had specially reserved Agriculture from liability to such mutations, as a standing inheritance and support for all his unprovided children.

Improvements in it have always been slow. While we see vast skill and proficiency displayed in the arts, and immense advances made in other things, at comparatively early periods of the world, it took the whole human race considerably over 4000 years to invent a tolerable form for the first, most essential agricultural implement—the plough.

The first book on culture, as a science, was published in England only in the 16th century. It was reserved for Oliver Cromwell to bestow the first premium ever given for the writing of an agricultural Essay.

And it does not seem, in the nature of things, possible, that labor-saving machinery, or any other description of improvement, can be applied to this branch of industry so as to prevent the great mass of the human family from finding the amplest resources in the bosom of our mother earth. Whatever numbers be already engaged, the employment is never over-crowded, none is so destitute or friendless but finds room and a cordial welcome. Nor does it ever repay with ingratitude and emptiness the toil and care bestowed upon it; even old and deep seated sterility relents before the ploughman's honest, ingenuous solicitation, rude and inhospitable wastes put on the smiling aspect of peace and plenty, and the desert blossoms and rejoices like the rose. Since the beginning of the world, it has never been heard, that an upright, industrious, and prudent farmer, who kept himself exclusively to his own business, had failed! Failure may be inherent to other businesses, through their own obstructions or barrenness, or the fault of others; and thus be sometimes unavoidable to the most prudent: but failure and bankruptcy are strangers here. The "Bank of Earth" is an institution that never breaks, and on its regular discount days never suspends payment. Those old and well established Firms, with which the Agriculturist does business, and which are ever

ready to aid the needy adventurer, with their inexhaustible resources, viz: Plough, Hoe, and Harrow, and Seed-Time and Harvest, are never pinched and scanty in their accommodations, make no sudden or oppressive curtailments or revulsions, and involve no honest industrious man in misfortune and overthrow. Dealing with them is uniformly a safe, quiet and productive business.

And it is as honorable as it is safe. Whatever dignity may have been conferred on a man by birth or fortune, by learning or talents, by morality or station, by services or sacrifices for the public, no abatement is suffered when he transfers himself to the pursuits of Agriculture. A seat in the most elevated Halls of Legislation cannot be taken by some men without an evident and depreciating compromise. What American but must have felt a generous regret to behold a fellow-citizen, once distinguished as President of the United States, descending to the floor of Congress; for which, notwithstanding, his talents and business-habits, and his unrivalled attainments as a statesman, have eminently fitted him! But who ever thought less of Washington, the deliverer—I might almost say, CREATOR, of a Nation, when he resigned the helm of State for the handles of the plough? Who does not even accord him increased veneration, when they behold him, who, with scanty means, had nobly subdued the enemies of his country, returning to subdue the fields of his quiet patrimony by his own generous culture? The crested, renowned, unequalled warrior, crowning his dignity as a plain substantial Virginia Planter.

Indeed, what a celebrated poet has said of himself, is by no means uncommon among the great and renowned: "I never had any other desire so strong and so like to covetousness, as that one which I have had always, that I might be master, at last, of a small house and a large garden."—The ultimate aspiration of men in other employments is, that, having attained the end of their ambition, they may complete the measure of their honors and happiness by quiting the trodden and contested arena, where gladiators go down, and by retiring to the "Otium cum dignitate" of rural life.

The Almighty himself, the Giver of all the talents and worth there is in man, has set the seal of his approbation and preference on the employment. The first and the best made man in this world, He made a gardener: the next two were respectively a grazier and a ploughman: and, in the language of the poet Cowley, "if any man object that one of these was a murderer, I desire he would consider, that, as soon as he was so, he quitted our profession and turned artisan." "Men are all born to this art, and taught by nature to nourish their bodies by the same earth out of which they were made, and to which they must return and pay at last for their subsistence."

The gratest of all Legislators, the man selected by the Almighty, as the organ of communicating the divine Law, Moses, was a

Shepherd and herdsman. The first Prophets, Elijah, grand, mysterious, awful, that arose and glittered like a meteor at midnight, and disappeared as suddenly, when he took the chariot of the skies, bequeathed his office, his mantle, and a double portion of his spirit to a young man whom he had taken from following the plough, and who continued long the Prophet of his people.

The first divinely anointed King of Israel, Saul, and his successor David, the man after God's own heart, whose minstrel poesy has directed the devotion of the pious in all succeeding generations, ascended from the field to the throne. The great body of the Apostles of the Redeemer where manifestly taken from rural occupations.

The literature of Heathen Antiquity exhibits a marked deference to this employment. Hesiod employed his poetic talents to instruct his countrymen on this subject. Socrates claimed for it pre-eminence over all other employments. The Lyric Poet of the Romans, Horace, Epod. II., has devoted to its praises one of the finished of his productions; and Virgil has done the same thing in his Georgics. Cicero claims for Agriculture a pleasure unlike all others, not diminished by extreme old age; and insists that this is the kind of life most of all befitting the dignity of a wise man. Cyrus, the wise King of Persia, was accustomed to releive the weighty cares of government, by its pleasures. The Agriculturists who have figured in Roman History would comprehend nearly the whole list of its great names;—Fabricius, Regulus, Curius, Cincinnatus, Numa Pompilius, and I know not who others.

The great oracle of international Law, Vattel, insists that the cultivation of the earth is a natural duty of man.

Not only do national strength and happiness depend upon it, but it also seems by the natural, congenial element in which every individual excellence, physical, moral, and intellectual, subsists and finds nutriment.

The active exercise in the open air, requires by his employment, tends to give the Agriculturist bodily energy, the capacity of endurance, confirmed health, habitual cheerfulness and length of days. The celebrated Dr. Rush was accustomed to recommend it to his patients of a certain class, who, if too feeble to guide the plough, must at least walk after it in a new made furrow, that they might inhale nature's balmy restorative, the odor of the fresh turned earth.

The Farmer is professionally removed from excitements which might affect his deliberate judgment. Mr. John Wesley, the great Methodist Reformer, thought that the employment rendered men less susceptible even to religious *excitements*, than other professions —a fact which this sagacious and observant man had proved in the course of his varied and popular ministry. It is evidently the natural school of patience, that cardinal element of every well balanced

mind; suited alike to all times, but especially to this restless, greedy, speculating age, and to the ardent, impulsive national character which belongs to us;—the only natural barrier we have against those periodical tides which are rolled in from other sources, bearing embarrassment and ruin along with them. To the Farmer, then, are we to look, amid the whirlpool of varied excitements, for a cool head, a calm mind, and a sound judgment.

"The stability of his property, the regular return of his harvest, the security, tranquillity, and abundance in which he lives,"—cultivate "the virtues of firmness, consistency, hospatality, and generosity;—the general independence of his circumstances placing him above any temptation of concealment or disguise, and his immediate reliance on Providence setting him above the necessity of consulting or deferring much to others, give him independence of mind, energy and frankness of expression, manliness of tone, dignity of manners, and self-respect."* The jealousy of rivalship may, and does invade the other walks of life; but comes not here. The Farmer fears no competition, envies no man in his success, solicits for himself no preference, imparts freely to all the information he has acquired,—the secrets of business he possesses;—and with such a combination of qualities as are here supposed, must surely be one of the steadiest and most powerful defences of our country's freedom.

The testimony of Mr. Jefferson on this subject may here be appropriately quoted.

"Those who labor in the earth," says he, "are the chosen people of God, if ever He had a chosen people, whose breasts he has made his peculiar deposite for substantial and genuine virtue. It is the focus in which He keeps alive that sacred fire, which otherwise might escape from the face of the earth. Corruption of morals, in the mass of cultivators, is a phenomenon of which no age nor nation has furnished an example. It is the mark set on those, who, not looking up to Heaven, to their own soil and industry, as does the Husbandman, for their subsistence, depend for it on casualties and caprice of customers. Dependence begets subservience and venality, suffocates the germ of virtue, and prepares fit tools for the design of ambition. This, the natural progress and consequence of the arts, has sometimes, perhaps, been retarded by accidental circumstances; but, generally speaking, the proportion which the aggregate of the other classes of citizens bears in any State to that of its husbandmen, is the proportion of its unsound to its healthy parts, and is a good enough barometer whereby to measure its degree of corruption."†

The influence of Agriculture on intellectual developements, is not less salutary. It is only where this art is sufficiently understood

*Adams—Morality of different Professions.

† Notes on Virginia, p. 224.

and successfully practised, that subsistence abounds so as to dispense with the necessity of personal exhausting labor from all, that leisure for study has been obtained, that the mind of man has been expanded, and that the arts, sciences, literature, and whatever else depends upon intellect, have flourished.

Bodily labor, in general, when not too continuous and exhausting, of which Agriculture is the most agreeable and useful form, seems highly favorable to the best discipline of the mind. "God ordained that man should live by the sweat of his face," and intelligence can breathe and live only in a being of an active life. Aikenside, the author of The "Pleasures of Imagination,' was a butcher until 21, and first took to study from being confined to his room by the fall of a cleaver. Marshal Ney was the son of a Cooper; Roger Sherman, Allan Cunningham, and Gifford, were shoe-makers; Sir William Herschel was a fifer boy; Franklin a Printer's devil; Ferguson, a shepherd; Ben. Johnson, a bricklayer; James Monroe, the son of a bricklayer; Gen. Knox, the son of a book-binder; Gen. Green, a black-smith; Gen. Morgan, a wagoner; Burns, a plough-boy; Bloomfield, a farmer; Frazer, a stone-cutter; Crabbe and Keates were apothecaries; and Sir. William Blackstone, was the son of a silk mercer, and a posthumous child." President Wayland conceived and matured the plan of his most celebrated effort, "The moral dignity of the Missionary enterprise," in the wood-cellar of a gentlemen in Boston, whither he used to resort daily for exercise.

A more remarkable instance than all, is that the Savoiur of mankind, who wrought with his own hands at the trade of a carpenter until he was near thirty years of age.

Unfortunately, in this country, not only are errors abundant, but even virtues are misguided. As a striking instance of this, Patriotism scarcely allows that any sphere is appropriate to itself except that of the *politician*. I would not depreciate *politics* as a profession, no more than I would any other of the various channels into which honest industry distributes itself. All flourish best where each has its appropriate measure of attention. But surely politics has no exclusive claim to the aspirations and efforts of the patriot. The truest patriotism consists in conferring the highest and most permanent benefit on one's country. Estimated in this light, if we could suppose that intellect could be valued in dollars and cents, what price might not England have afforded to pay for such a patriot as Tull or Watt? What price might America have wisely given for Fulton? What, in any form or expresson of wealth, would such a man as the Rev. Henry Coleman of Massachusetts, be worth to the State of Alabama? The fact is stated, that the market value of the lands in one of the counties of New York, had within a few years been *doubled*, in consequence of the improved husbandry introduced by the precepts and practice of two

or three enlightened farmers, who had moved in and settled among them. Other striking facts might be multiplied without number.

A celebrated English writer, Mr. Youatt, proves from unquestionable statistics that the average weight of cattle and sheep brought to the markets in that country, by the effects of improved methods of breeding, had been *doubled*, within sixty years; and the quality of their flesh had been proportionally improved. The same fact is stated, by General Emory, of Baltimore, to have ocurred in that city, within the period of his own observation. In Boston, it was said twenty years ago, by one of the most extensive pork merchants, that the improvement then introduced in the breeds of hogs sent to that city for shipment, had added hundreds of thousands of dollars to the wealth of Massachusetts. Since the introduction of foreign breeds, that amount has been greately increased. The Hon. Chilton Allan of Kentucky, states, that while the average value of all the cattle in the State is $5 87 each in three populous and wealthy counties, Fayette, Bourbon and Clark, the average value had been increased to $15 each, by the general introduction of the improved breeds.

What is patriotism, if these are not among its genuine fruits?

A serious error exists generally in regard to those professions termed "laborious."

By what kind of legerdemain or witchery is it that labor, universally indispensable to every form of well-being, comes to be regarded disreputable? Agriculture, the most ancient, honorable, and independent form of it, suffers the severest proscription. Many a youth that now hears me, would positively be ashamed to be seen working in the fields. In our large cities, hundreds are congregated, without employment, and often without bread, while millions of acres of the most fertile land on earth remain unoccupied. If a Farmer advertises for extra labor, with difficulty he obtains a reluctant offer; while an under-clerkship in a miserable drunkery would be caught at with avidity. A merchant in one of the northen cities advertised for a clerk: on the first morning of its appearance, he had over sixty applications. Sad indication! Look at the young men in some of our towns and villages: so restless and eager apparently for something to do, that even the chairs kept in the stores have to be spiked, and nailed, and sheathed in iron, to protect them from their busy pen-knives; and a fresh lot of cedar, such as an old awning frame, or a sign post, taken down, is an acquisition worthy almost of an auctioneer's advertisement and sale. Pass through the streets of some of these towns—you will see groups of idlers mounted upon empty boxes, druming with the heels of their boots, lounging about the door of drinking establishments, whistling, and manufacturing tobacco-juice or puffing the fumes of a cigar, retailing the latest scandal, conning some new joke, discussing affairs of State, and all other subjects but what concerns them, what suits their genius or station, and what they

might do to promote their own true welfare and that of their country. While affairs of national policy embarrass the most profound and thoughtful statesman, these discover, as if by intuition, in some egregious folly of the President, or glaring error of Congress, a ready solution of all pecuniary difficulties, the cause unmasked why employment is so scanty, money so scarce, and the times so hard; at the same time, perhaps, there are hundred of unoccupied acres within a mile of them, whole trades either wanting in the community, or scantily filled, the farmer's fields over-run with grass and weeds, crops wasting on the ground for want of more labor to gather the exuberant production, the market utterly unsupplied with what is of daily use and would command ready money; yet all this herd of idlers desiring, or professing to desire, that they might be prosperous and happy! If any new improvement in agriculture, the arts, or any other form of industry, claims attention; they will discourse eloquently about *Humbugs*, and, with all the prudence of a sage and the sagacity of a philosopher, condemn it untried. For my part, I think it were better to be humbugged, now and then, in the attempt to be, or to do, something than to consume a life in utter worthlessness, never attaining to the dignity even of a *decent humbug themselves.* I have no words to express my utter contempt and abhorrence of such a character; The vagrant, idle, worthless person, consuming much and producing nothing, if he had his desert he would be scourged, naked and hungry, through the world, at the tail of an ass, whose grade he falls below. The ass indeed, is not without some honorable association. He is connected even with Bacchus, who was deified as the author of Grape Husbandry; for while Bacchus is acknowledged to have taught the cultivation of the Vine, the Ass of Nauplia, comes in for a share of the glory; for he used to gnaw the vines, and so taught men the art of pruning them. How many, in the shape of men, possessors too of wealth, have, not conferred, even by accident, so great a benefit on mankind!

But, to induce men to engage in some employment is not the only difficulty. Those who make Agriculture their profession, and expect to live by it, are with difficulty persuaded to attempt any improvement. Now this is surprising. It is admitted, every where, that whatever is worth being done, is worthy of being *well done.* Why not Agriculture, "the most natural occupation of man, and the right arm of the Commonwealth?" Those engaged in this pursuit are keen enough to discover and correct a failure or an error in certain stages of their business. If their Factor should dispose of their crop at half a cent less in the pound, or ten cents in the bushel, than the market price, the fact would at once be seen, the loss felt, and the cause removed. Why scrupulous and vigilant here; and yet regardless of the domestic market? Regardless of the mode of production and of consumption, of rearing, feeding, and fattening domestic animals; and of rendering all the expenses

of your establishment as little as possible, and the production as great and as available as possible, to every economical use?

The bare fact, that farmers generally are *without thought* on this subject, is sufficient to indicate that they are liable to unknown waste, and to great losses. Will any branch of industry, any system of means regulate itself? Is success to be reached without care, without skill? That Farmers, in this part of the country, as a body, are not seeking improvements, is too obvious to be denied.

In the other trades, the skilful laborer will convert the annual surplus he gains into the means of improving his mode of business and increasing his production. As he soon gets his business sufficiently *extended*, for convenience and the most economical arrangements, this whole surplus, with all the lights of experience, aided by the suggestions of a fruitful and excited invention, is imployed in rendering *economy* complete, in introducing the most exact results of enlightened skill into every process and part of his profession. This is wise. But what is the Farmer's course? If he makes a little money, his first course, probably, will be, to *extend* his business;—he buys more land and negroes, without inquiring, perhaps, whether this procedure may not add to his cares and his expenses, unmitigated by a proportionate increase of his income. If his business, however, is sufficiently extensive; i. e. the *number* of acres and of hands sufficiently to answer his views; then his surplus he will invest almost invariable *in something else beside his Farm.* It dose not occur to one in a thousand, scarcely, that his surplus might be judiciously invested in a better farming implement, better stock, better buildings, experiments on soils, manure, grains, grasses, esculents roots experiments to remedy imperfections or remove obstacles to plans already in use, or to render them more efficient. Nay, he will not be at the small trouble or expense of procuring the recorded results of the experiments of others; nor of recording and calculating his own; nor of possessing himself even of the current information circulated among enlightened men of his own profession, in his own country! What would have been the state of the sciences and of the arts, at this day, if those employed in them had pursued a similar course?

There is no truth in Agriculture better established than this, that *the greater the outlay, judiciously applied to improve the fertility and productiveness of land, the greater the proportionate profit on a given amount of the capital.* Yet who acts on this principle.

To use the words of a celebrated financier, our farmer who has made a little money, "buys more land, when he ought to buy more manure; or puts out his money into some joint stock company to convert sun-shine into moon-shine; or else he buys shares in some gold mine, or lead mine. Rely upon it our richest mine is the barn-yard; and whatever temptations *stocks* or *shares* may offer, the best investment for a Farmer is *live-stock* and *plough-shares.*"

(To be continued.)

LECTURES ON AGRICULTURE.

Three Lectures on Agriculture, delivered at Oxford, on July 22nd and Nov. 25th, 1840; and on Jan. 26th. 1841; in which the Chemical Operation of Manures is particularly considered, and the Scientific Principles explained, upon which their efficacy appears to depend. By Charles Daubeny, M. D. F. R. S., M. R. I. A., &c., Sibthorpian Professor of Rural Economy in the University of Oxford. Oxford, 1841, 8 vo., pp. 106.

(Continued from page 237.)

In his second lecture the Professer laid down the principles which ought to guide the farmer in operating on the soil and employing manures; and in this third or concluding discourse he points out in detail the application of these principles. We shall only quote a few practical extracts from this lecture, the greater part of it being occupied with chemical details, which will be much better studied by having recourse to the pamphlet itself, which, indeed, ought to find a place in the library of every scientific cultivator.

"The first inference that may be drawn from the principles above laid down, relates to the utility of diligent and frequent tillage, in order to favour the disintegration of the soil and the free admission to it, of oxygen and of water.

"Unless the former takes place, no fresh alkali can be extracted from the subjacent rock by the action of water upon it; unless the latter be brought about in a sufficient degree, the humus excluded from air cannot undergo the process of eremacausis, or gradual combustion, on which its influence upon the nutrition of plants has already been shown to depend.

"Hence, in ancient times, ploughing was regarded the most important process in agriculture, after which, though at a long interval came manuring. The design therefore of the agriculturist is to reduce the soil to that loose and crumbling condition, in which it becomes entirely pervious to air and moisture.

"Hence the superiority of spade husbandry over the plough, if the expense of the labor be not taken into the account: hence the fertility of the small farms of the ancient Romans, notwithstanding their rude methods and their deficiency of skill: hence the fine condition of those tracts of land, which are subjected to the unremitting manual exertions of societies of men like the Trappists, whose mistaken views of religion have led them into that entire isolation from human society, under which even the severest physical toil becomes itself a relief.

"The same principle explains in some degree the utility of subsoil ploughing, which, by bringing up to the surface a portion of earth previously out of the reach of those influences which tend

to cause its disintegration, extracts from it the alkaline and other ingredients required by the plant for its subsistence.

"It is found advantageous, in the first instance, merely to break and pulverize the subsoil to a depth of 18 or 20 inches, without bringing it to the surface, and only after a lapse of four or five years to mix it with the vegetable mould above, a practice, the utility of which depends, not only the mechanical condition of the land being rendered more favourable to culture in consequence of its becoming more friable, but likewise, probably, owing to the chemical decomposition of its component parts having taken place more completely.

"Other circumstances, such as its influence on the drainage of the land, will no doubt co-operate in producing the benefit which often results from the practice of subsoiling; but that the cause pointed out really contributes to its efficacy, may be inferred from a fact attested by many experienced agriculturists, namely, that those soils are most benefited by subsoil-ploughing, which can be rendered thereby more pervious to moisture, and consequently to air; whilst those who contain too large a per centage of clay to be affected in this manner by the process, derive no advantage from it.

"But it must not be forgotten, that the utmost pains bestowed upon its elaboration cannot generate any new principles, but only act, by enabling the soil to impart more readily to the crop those which it already posesses.

"This obvious truth will explain the cause of the disappointment felt by farmers, at finding, that after a certain time, the most diligent tillage no longer affords them the same returns it did at first.

"It is said, that Jethro Tull, who first proved the advantages of deepening and pulverizing soils, was nevertheless obliged at length to admit, that at each repetition of the experiment the success was less decided, unless manure was at the same time applied. Judicious tillage, in short, like the use of machinery in the arts, does not create any new power, but only tends to render more available those already latent in the earth.

"It was not therefore without reason, that Cato, after pronouncing, that the first, and the second thing in agriculture, is to plough, adds, that the third is to manure; for what is this, but the art of providing for the intended crop an adequate supply of those ingredients which enter into a composition?

"The principles therefore which have been laid down, whilst they will serve to guide the husbandman in the selection of his fertilizers, may also explain the different results that are obtained from the use of the same kind of mineral manure in different soils.

"Among those which have excited the greatest interest within the last few years, may be mentioned the nitrates of potash and of soda.

"The former, commonly called saltpetre, is produced spontaneously in most parts of the world, and especially in hot countries, in consequence of animal and vegetable decomposition conducted under particular conditions, and accordingly it has been introduced into agriculture from an early period.*

"The latter, sometimes distinguished from its crystilize form, as cubic nitre, is met with in large quantities in Peru, 14 leagues from the port of Iquicque, were, according to Mr. Darwin, it forms a stratum two or three feet thick, lying close beneath the surface, and following a margin of a grand basin or plain, elevated 3300 feet above the level of the Pacific, but which, nevertheless, appears evidently to have been at one time a lake, or inland sea.

"The price of the salt at ship's side in 1835, at the time Mr. Darwin visited the spot, was 14s. a cwt., the grand item of expense being its transport of the cost.

"These particulars are perhaps unimportant, as they may serve to show that an almost unlimited supply of both these salts may be calculated upon; and in the case of the nitrate of soda, that its price might be kept down, rather then enhanced, by an increased demand.

"That, however, with which the agriculturist is most concerned, is to determine the ralative value of these salts as manures, and to discriminate the kind of land to which either or both are beneficial.

"Now, it is remarkable that the nitrates, whilst they have in some cases occasioned a wonderful increase of produce in others have appeared of little service, and also that, whereas on certain land both were equally efficacious, on a different description of soil, the one has answered, whilst the other failed.

"It may be possible to explain why these salts should appear so capricious in their effects on the different kinds of land to which they have been applied.

"When the ground already contains all the other constituents which the plant requires, as, for instance, a sufficient amount of the earthy phosphates, and of silicate of potass, the addition of the nitric salt will do good, by supplying nitrogen, and thus enabling the vegetable to assimilate a proportionate quantity of the other ingredients.

"But when the latter are already nearly exhausted, the addition of the nitrates will no longer be of advantage, since only that portion of nitrogen can be assimilated which is equivalent to the amount of the earthly phosphates, of the silicate of potass, and of the other fixed ingredients, which the plant obtains from the soil.

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*Where the price operates as an objection to its use, the method of forming artificial nitre beds, by mixing together vegetable and animal matters in a state of decomposition with calcarous earth, may be economically adopted. See Cuthbert Johnson, on Saltpetre and Nitrate of Soda. Ridgway, 1840.

"Hence the proper remedy such a case would seem to be, that of supplying some other manure, which may furnish a due supply of the deficient matters.

"Thus, if the nitrates have failed, we should be inclined to try the next year the effect of phosphate of lime, or animal manure, upon the same soil.

"But it seems to happen sometimes, that the same land, which is benefited by the administration of one kind of nitric salt, is scarcely affected by another.

"How are we to account for the failure of the nitrate of soda on soil which has been materially benefited by the administration of nitrate of potass?

"I can only conjecture, that the difference must have arisen from a deficiency in the land, of potass, which would be supplied by the saltpetre, but not by the nitrate of soda. Should this be the true solution, those soils, in which nitrate of soda has succeeded, ought to contain a larger quantity of potass, than those in which it has failed.

"The general principles laid down may also inform us, as to the true plan upon which the succession of our crop should be regulated.

"Those plants ought to succeed each other, which contain different chemical ingredients, so that the quantities of each, which the soil at any given time contains, may be absorbed in an equal ratio.

"Thus a productive crop of corn could not be obtained, without the phosphates of lime and magnesia which are present in the grain, nor without the silicate of potass which gives stability to the stalks.

"It would be injudicious, therefore, to sow any plant that requires much of any of the above ingredients, immediately after having diminished the amount of them present in the soil, by a crop of wheat, or of any other kind of corn.

"But, on the other hand, liguminous plants, such as beans, are well calculated to succeed to crops of corn, because they contain no free alkalies, and less then one per cent of the phosphates.

"They thrive, therefore, even where these ingredients have been withdrawn, and during their growth afford time for the ground to obtain a fresh supply of them, by a further disintegration of the subjacent rock.

"For the same reason wheat and tobacco may sometimes be reared in succession in a soil rich in potass, because the latter plant requires none of those phosphoric salts which are present in wheat.

"In order, however, to proceed upon certain data, it would be requisite that an annalysis of the plants most useful to man should be accomplished in the different stages of their growth; a labor which has hitherto been only partially undertaken, and which, perhaps, is an object worthy to engage the attention of a great body, like that of the English Agricultural Association.

"It is a curious fact, that the same plant differs in constitution when grown in different climates. Thus in the beet root, nitre takes the place of sugar, when this plant is cultivated in the warmer parts of France.

"The explanation of this difference is probably as follows:—

"Beet root contains, as an essential ingredient, not only saccharine matter, but also nitrogen; and it is probable that the two are mutually so connected together in the vegetable tissue, that the one cannot exist without the other. The nitrogen, being derived from the decomposition of ammonia, must be affected by any cause which diminishes the supply of the latter, and in proportion as this ingredient is wanting, the secretion of sugar will likewise fall off.

"Now, it has been shown by Liebig, that the formation of nitric acid is owing to the decomposition of ammonia, and it is conceived by him, that the last products of the decomposition of animal bodies present themselves in the form of ammonia in cold, and in that of nitric acid in warm climates. Hence, in proportion to the amount of nitric acid formed, and of nitre absorbed by the plant, that of the nitrogen, and consequently that of the saccharine matter, present in it, may be diminished.

"We may also be guided in the management and selection of manures, by the principle laid down. The solid excrement of animals varies of course in composition according to the nature of their food; thus that of herbivorous animals, which are fed principally on grasses, contains much silicate of potass, as well as phosphoric salts, but comparatively little nitrogen; whilst human fæces contain little of the former ingredient, but much phosphate, and a larger proportion of nitrogen. There will be seen even a difference in these respects between the manure afforded by the inhabitants of towns, fed principally upon animal food, and by that of peasants, who subsist in greater degree upon vegetables.

"In like manner, the excrement of cattle is more efficacious as manure, when the animal is well fed, and undergoing the fatting process, than when it is more scantily nourished.

"According to Sprengel, there is a difference between different kinds of herbivorous animals in this respect; cows requiring, for the chemical constitution of their body, or for the formation of their milk, more nitrogen, and more phosphate of lime, than sheep; whilst the latter requires again more sulphur, and more common salt, for the formation of their wool. Hence the excrements of oxen contain less nitrogen than those of sheep, whilst they are more abundant in salt and sulphur.

"Accordingly it is found in practice, that the sheep's dung ferments more readily than that of black cattle. 'The latter, therefore,' says Liebig, 'is of most service on soils consisting of lime and sand, which contain no silicate of potass or phosphates, whilst their value is much less when applied to soils formed of

argilaceous earth, basalt, granite, porphyry, clinkstone and even mountain lime stone, because all these contain potass in considerable quantity.'

"Human excrements, on the contrary, are useful in both descriptions of soil, but would be inadequate to supply the silicate of potass which is wanting in the former.

"The constituents, however, to which the solid excrements of animals in general owe their principal efficacy, are the earthly phosphates; and hence we see why it is that animal manure should favour the growth of corn, which contain so much phosphate of lime and magnesia, and why the earth of bones, and even the ashes of certain kinds of woods, such as the beech, which contain phosphates, may be advantageously substituted; whilst the ashes of others, as of the oak and fir, which are deficient in phosphates, are of very little avail. According to Liebig, every 100 lbs. of the lixiviated ashes of the beech, spread over the soil, yield as much phosphate as 400 lbs. of fresh human excrement, and will be sufficient to supply a field with phosphoric acid enough for the production of 3820 lbs. of straw, or for 15 to 18,000 lbs. of corn.

"We see also the cause of the fertilizing quality of liquid manure, as employed in Holland, for those crops which are most subservient to the nourishment of man.

"Liquid manure consists, in a great degree, of the urine of various animals, which, during its decomposition, exhales a larger quantity of ammonia than any other species of excrement.

"Now all kinds of corn contain nitrogen, and, consequently, any manure which yields a ready supply of ammonia, must cause a fuller developement of those parts of the plant which are of the greatest use to man.

"Even the kind of animal manure usually employed in this country owes its efficacy, so for as it is dependant upon the ammonia present, to the urine, rather than to the solid excrement of which it is made up, and hence becomes materially deteriorated in this respect, when the more liquid portions are allowed to drain off from it.

"We may also derive from these considerations some useful cautions as to the treatment of this same material.

"Ammonia, in the free or uncombined condition in which it is generated from the decomposition of animal substances, is caustic and noxious to vegetation, and is likewise so volatile that it will escape into the atmosphere as soon as it is produced, unless some means are taken to detain it.

"This causticity is readily removed by promoting its combination with the carbonic acid of the atmosphere; but to prevent its escape during the time necessary for effecting this union, various experiments have been resorted to.

"Where water in sufficient quantity is present, along with the other materials of the dung-heap, this alone will, in some measure,

tend to prevent its volatilization; and the same object is further secured, by admixture with peat, as recommended by Lord Meadowbank, or with sawdust, tanner's bark, turf, and other similar substances. These too are beneficial, not only by moderating the putrefactive process, but also by detaining the ammonia generated within their pores, and thus preventing its loss.

"The advantage of compost heaps, which are strongly advocated by some farmers, depends mainly on these principles.

(To be continued.)

REDEMPTION OF PEAT BOGS IN MIDDLESEX.

The most remarkable improvements in the country have consisted in the redemption of peat bogs and their conversion from sunken quagmires into most productive arable and grass lands. Such improvements are to be found all over the country, and are to be seen to great advantage in Lexington, Groton, Framingham, Concord, and many other towns. Large tract of peat bog yet remains in the country to be redeemed. The general method has to open sufficient drains for the removal of the water entirely, or else to reduce it so that it may not at any time stand higher in the ditches than within eighteen inches of the surface. It is indispensable that the water should be removed, and if entirely, undoubtedly the better. The next step has generally been to pare the surface and burn the sward and hassocks in small heaps, and spread the ashes over the ground. Some persons then have immediately sown their grass seed in abundance and have gathered good crops. Others, as soon as it has been thus prepared, have manured it plentifully with a compost manure mixed with a large proportion of loam; and others have given it a good dressing of mould or of sand. Others, after draining the meadows, have applied a top-dressing of three or five inches of coarse gravel directly upon the sward; and then have sown their grass seed with a good coating of manure. Sometimes, as in Groton, the land after being pared and burnt has been broken up by a plough, and after being exposed in this state to a winter's frost has been planted with potatoes manured in the hill, and then laid down to grass. It is not easy, without a personal knowledge of the premises, to point out the best mode to be always adopted. The covering of the meadow with a thick covering of gravel without removing the sward is pretty generally condemned, as in a short time the coarse grasses make their appearance again. The application of coarse sand to a certain extent is approved, as it serves to divide the vegetable matter and to consolidate the meadow so as to make it passable with teams. The paring and burning of the turf is always an advisable process unless it be in a season of drought, when the great body of peat might take fire and burn large and deep holes

in various parts. The application of mould and compost manure to almost any extent is always beneficial, and grass seed should be sowed very abundantly in order that the hay may not be too coarse and that a thick and strong sward may be formed. The taking of a cultivated crop at first is not so desirable as to get the meadow as soon as possible into English hay, and after two or three crops it will become consolidated, and may then be ploughed and cultivated to advantage. In redeeming meadow land of this description, I have myself found an advantage in making a large open ditch through the centre of the meadow, and then cutting side ditches at right angles with it to empty into it, and sometimes cutting off the springs by covered drains round the margin of the meadow. The centre ditch may be four or five feet wide at the top, and two or three at bottom, or six feet at the surface and two at the bottom, according to the quantity of water to flow in it, and of a suitable depth to take of all the water; and the side drains may be two feet at top and one at bottom, with six inches of rough stones thrown in at the bottom and there covered with straw or brush so as to prevent the dirt sifting through, and these again covered in with the material which was at first thrown out. It is necessary that the top of the stones with which the drain is filled should be below the ordinary depth of ploughing so as not to be disturbed when the land is cultivated. I do not know how I can better serve the objects of my Report than by allowing several of the farmers, who have most distinguished themselves for these improvements, to give their own account of the methods adopted. I may here add that among other applications the application to a peat meadow after it has been pared and burnt of a good dressing of clay has been signally beneficial. Herdsgrass, to the growth of which these reclaimed bogs seem particularly congenial, peculiarly delights in a soil strongly clayey or aluminous. Three tons of hay to the acre from these lands is not uncommon, and their productiveness may be long kept up by good management. Four and five tons are sometimes produced. [*Colman's Fourth Report.*

CHARCOAL AS A MANURE.

THERE is no subject connected with farmimg that requires so great attention as "*manure.*" Let the land be ever so sterile and barren, it has been fully ascertained that by a judicious course of manuring it can be enriched and made productive. Let the soil be as rich and as full of succulent matter calculated for the producing and nourishing the variety of plants necessary to be grown for the use of man and the benefit of the creation, a continued course of tillage, and a series of years' neglect of manuring will certainly render it barren and unproductive. Upon the state of the soil on every farm depends the living, we may say, of the farmer and his

family, and carrying out the principle in its most extensive sense, upon the activity and intelligence of the farming community depends the whole interest of the entire commercial and civil community of any country. These facts are so evident to any man, who will take but a moment for reflection upon them, that it is a wonder indeed that more attention has and is not directed to this all important question, as to what are the best manures? No doubt the manures that are well calculated to produce a decided and active influence at once upon many soils would not act so readily and so permanently upon many other soils; but there are many manures that so act upon all soils; or at best, there are many applications that may be made to almost any soil, that if they are not manures themselves form the basis upon which the principles of other active manures may be made to produce most astonishing effects. I have recently had my attention directed to the use of *charcoal*, by the knowledge of some facts that have been communicated in answer to my inquiries, that has induced me to devote a paper to the subject, in the hope, at least, that it will excite attention, and be productive, in the end, of great good to the community, by inducing a series of experiments upon the use of charcoal as manure, that will result in immense benefit to the farming interest.

I shall not pretend to enter into a series of reasonings upon the chemical affinities of charcoal to the soil upon which it may be applied: these matters I shall leave to those whose education and pursuits have better fitted them to ascertain these things, by enabling them to reach them by chemical analysis, which I am unable to make. I shall simply state the facts which I have observed, and those which I have learned from others, whom I have requested to look to them, together with the results that have obtained, leaving to others to say whether the question is not of sufficient importance to lead them to try whether the results will not be equally beneficial in very many other situations.

In the neighborhood in which I live there are a great many hearths of coal pits, as they are called; places where wood has been piled, and burned into charcoal, scattered about the country. I have invariably observed, that upon these hearths, in the course of a few years, a luxurious coat of grass made its appearance, when all around in the vicinity scarcely a blade of grass could be found, and what there was found out of the coal hearth was sickly and dwarfish. This was so well known that in the heat of summer, when the pasture in other places was dried and withered by the summer drought, it was a common practice to drive the cattle to the "coalings," as they are called, sure that they would there obtain food. During the last autumn, business called me into Harford county, in Maryland. While there I was surprised at the exceedingly luxuriant growth of a crop of grain but lately seeded into a field, on Deer creek, and also at the very peculiar appearance of the soil. The soil upon which the grain was growing had a remarkably dark

appearance, and appeared to be so mellow and friable as nearly to bury the foot at every step, and although it lay very level did not appear to the touch to be so; not as the soil in the other fields around it on the same level. My attention was excited by what I saw, and I inquired if the field had not been covered with charcoal and was told that it has been. I inquired when it was done, and was told it had been spread upon it more than *twenty years* ago !! I then asked what was the general quality of the crops raised upon it, and I was told that they were invariably fine, both as to quantity and quality. The person who lived upon the property informed me that he had repeatedly hauled the soil from that field and spread it upon the surrounding fields, and he could, for years, or in fact from the time he spread it there to the present day, always see, by the growth upon these places, exactly where he had put it!!

I had for some time past had my attention directed to the subject but here I found it fully developed to my full satisfaction.

When I returned home, I made it the subject of conversation frequently with the farmers in our neighborhood, and from one of them I learned that when he lived in Chester county, Pa., with his father, a part of their farm became worn out and unproductive. It was abandoned for several years, and in the mean time many coal pits had been formed upon several of the old fields, by drawing the wood there to burn into coal, that had been cut in the adjoining timber lands. After some time they again put those fields under tillage, and he states that wherever a coal hearth had been left, there the crops of grain and the growth of grass was equal, if not superior, to that which grew upon any of their most productive fields. Another case of the application of charcoal I have found in this neighborhood was made by a gentleman in the iron business to his meadow, near the coal house. He had a large quantity of the coal that had became too fine to be used in the furnace; he did not know exactly what to do with it, it was in the way, and he concluded, as the easiest way to dispose of it, to haul it out and spread it upon the grass land. He spread it late in the fall, and for many years he imformed me he observed the most astonishing effect produced upon his yield of grass. The quantity was nearly double, and the effect continued as long as he owned the property, which was at least ten years; so he imforms me.

From what I can see its effect, where a large quantity is left upon the ground, as for instance, in the centre of the hearth, it takes a considerable time for it to acquire a sufficient degree of moisture to penetrate to the bottom, and until it has acquired that degree of moisture nothing will grow there. Around the outer edges of the circle where it is thrown upon the ground it is soon saturated with moisture, and vegetation is soon facilitated, and goes on rapidly. I should judge, from this that when about to be applied to land the coal should be ground fine, and then throughly wetted and sown or spread with a lime spreader over the surface of the soil. From

the circumstance of its being easily powdered or mashed up, I should suppose that the process would be very easily effected by making a floor of plank, say circular, and procuring a good sized stone, to be affixed by a shaft to an upright post, throw the coal into the circular planked way, and attach a horse to the shaft passing through the stone, and drive him round, carrying the stone, in its passage over the coals. A very simple and easy process, precisely similar to the old fashioned way of grinding or breaking up bark, practiced by the tanners, previous to the invention of the cast-iron mill now in use. The cost of covering an acre would be trifling, and if it produced no other effect than that of forming a permanent vegetable basis in the soil, for lime to act upon, it appears to me it would well repay a greater amount of labor and expense than would be necessary to try it.

I have just been made acquainted with another result of the application of charcoal to arable land, that if general, from its application, will induce its use by every one who can procure it at a reasonable price: that is, wherever charcoal has been applied *rust never affects the growing crop of wheat!!* My friend who has communicated this fact to me states, that he has observed it particularly, and when the field generally has been "struck with rust," as it is called, those places where he had applied the charcoal *invariably escaped.*

J. H. HEPBURN.

Jersey Shore, Lycoming Co., Pa. [*American Farmer.*

THE COTTON LOUSE.

To the Editors of the Tennessee State Agriculturist:

GENTLEMEN,—In the February No. 1842 of your periodical I observe a letter from "Your Patron," who hails from Shelby Co., Tenn., in which he states that "the louse" was very destructive to Cotton in that region, last spring:—"nearly every planter," to use his language, "lost their stand of cotton by them." He adds, "Any information respecting their *origin* will be thankfully received."

Now I claim not to be one of your *experienced* correspondents, of whom alone "Your Patron" asks information; but I will, nevertheless, venture to predict that a knowledge of the origin of "the louse" will not be had in our day and generation. However ungrateful such a prediction may be to our curiosity to learn whether the "red ant" or "the lady bug" or some other bug deposits the egg from which the troublesome insects springs, I think it of far more importance to the planter to know by what means he can defend the cotton plant from its destructive propensities. Under this impression I will state some facts which have come under my observation, or otherwise to my knowledge; and the plan which those facts seem to me to suggest for guarding against its ravages.

The time when I first saw the cotton louse was in the spring of 1837. I cultivated the best quality of upland in the country. The

growth on it before it was cleared was most hickory trees: it was fresh, and consequently light and mellow, and in the most favorable condition to ensure a good "stand," to use a technicality of the planters. (For be it known and remembered, that however bitter and incorrigible the prejudice which may of this class in society cherish against some others, but especially the lawyers, one acquainted with the routine of business on a plantation, knows that planters are, like the lawyers, compelled *ex necessitate rei* to use technicalities too.) When my cotton came up it presented as fine a stand as I ever saw. The grass and weeds came up, not "few and far between," with it. It continued to flourish till "scraping-time" (to use another technicality,) viz. about the last of April, when the hoe is used in scraping away the grass and weeds and surplus plants, so as to leave those plants which are selected and left to grow, clean and at the proper distance from each other. A few days after I commenced scraping I discovered that the cotton plants, which had been cleaned by this process, were wilting and dying to such a degree as to render it necessary as to plough them up and re-plant, although I had pursued my usual plan of leaving two or three plants in each place or hill in order to insure a sufficient stand. Having never seen the cotton louse, nor witnessed its ravages, I was wholly at a loss to account for so strange a circumstance as was then presented to my view:—the cotton which had been cleaned was nearly all dying, while that which had not been scraped appeared to be green and flourishing. A gentleman who had witnessed the ravages of these insects a year or two previously in Alabama, directed my attention to them on my cotton. I could, after this, very easily account for the wilting and dying condition of that which had been scraped. I had laid off my cotton rows four and a half feet apart —the usual distance—and ploughed out the middles so as to convert the entire surface of the field into beds or ridges, upon which the seed were sown. The hoe was preceded by the plough which was run on each side of the row of cotton with the bar next to the cotton in order to lessen the labor of scraping with the hoe. By which operation all the grass and weeds in the middle of the row were covered up. The hoe followed cleaning out the row and leaving the plants from one to three in number at the intervals of from eighteen to twenty-four inches, so that not a particle of vegetable matter was left upon the ground save the cotton plants thus selected. The insects were upon the surface of the earth, and having no other vegetable matter upon which to support their ephemeral existence, they collected in crowds on the nether sides of the leaves of the plants and very soon sucked all the juce out of them, causing them to appear dry and parched as if blasted by the application of fire. At the same time the process of scraping had necessarily taken some of the earth from about the roots of the plants and left the tender stems exposed to the heat of the sun, and the cold of the nights. What wonder, then, that such tender plants should die as they did?

On the contrary where the grass and weeds were not destroyed these protected the cotton in a great measure, from the destructive powers of the insects by affording them the means of subsistence. Upon examining the fields of others I found that those who were "in the grass" had no difficulty in securing good stands" of cotton. My subsequent observations, especially those which I have made last spring when the insects destroyed many crops in this country, have confirmed me in this opinion which I formed in 1837, that vegetable matter in the form of grass and weeds must be left in the field for the insects to subsist upon as a protection to the cotton until they disappear, which they usually do early in the month of June.

But how is this to be done without endangering the crop by getting "in the grass," as the planters say? I answer, very easily. Instead of ploughing up the ground entirely into ridges, make the ridges with about four furrows, leaving balks between them untouched by the plough until all danger from the louse shall have ceased. Keep the cotton row clean of weeds and grass, in the meantime, and cut up as small a number as possible of the plants, After the louse disappears plough up the balks, and thin the cotton as desired; and, I think, there will be, generally, as good a stand as the planter may want. I was informed, last summer, by a gentleman who has been planting cotton in this State for more than thirty years, that this was the plan that was adopted, successfully, by the planters upwards of twenty years ago against the snails or grasshoppers (I no not recollect which,) which were then as destructive to the cotton plant as is to the louse of the present day, if not more so.

Should this plan fail in securing a stand of cotton, another consequence highly beneficial to the planter must result from it:—it will prevent his land from washing so much as it otherwise would. To prevent his land from washing is a matter that should receive the most studious attention of every one who plants cotton on upland.

Yours, respectfully, LEWIS M. GARRETT.

Canton, Madison Co., Miss., March 5th 1842.

STEWARD'S STABLE ECONOMY.

Food—Principles of Feeding.—The principles of feeding are facts which influence and ought to regulate the practice of feeding. The word feeding refers to the manger-food, given at intervals, not to the hay or foder, which is almost constantly within the horse's reach.

People who are unacquainted with stable affairs make many blunders in the management of their horses, and particularly in feeding them; they reason too much from analogy. The rules which regulate their own diet are applied to that of the

horse. Medical men are remarkable for this. A skilful surgeon expressed his conviction that stablemen are full of error and prejudice regarding the diet of horses. He said,"I order my patients to live on plain food, on that which dose not tempt excess, and I tell them to eat when they are hungry, and to desist when satisfied. It is thus I treat my horses," continued he," I give him plain wholesome food, as much as he likes, and when he likes."

This is sufficiently absurd; it a common way of speaking only with the ignorant. It might be a very good rule, if there were no food for horse but grass, and none for man but bread. Horses may eat more grain, and men more beef then their work requires, or the plain, wholesome nourishment as it is called, may not suffice for certain kinds of work which renders care and system so necessary in the feeding of horses. Men have to work too, but very few labor bearing any resemblance to that of the horse, and those few are compelled to regulate their diet by rules that are not known to the bulk of mankind. The diver, the boxer, the runner, the wrestler, must not live like other men. The fermentable nature of the horse's food, and the pecular structure of his stomach, which forbids vomition, and the abstinence from food and drink occasionally required by work, these are other circumstances which demand particular attention to the mode of feeding.

Slow work aids digestion, empties the bowels, and sharpens the appetite; hence it happens that on Sunday night and Monday morning there are more cases of cholic and founder than during any other part of the week.—Horses that never want an appetite ought not to have an unlimited allowance of hay on Sunday; they have time to eat a great deal more then they need, and the torpid state of the stomach and bowels produced by a day of idleness renders an additonal quantity very dangerous.

By slow work I mean that which is performed at a walk, not that which hurries the breathing, or produces copious perspiration.—The moderate exertion of which I speak does not, as some might suppose, interfere with the digestive process. It is attended with some waste; there is some expenditure of nutriment, and that seems to excite activity in the digestive apparatus for the purpose of replacing the loss. Farm and cart-horses are fed immediately before commencing their labor, and the appetite with which they return shows that the stomach is not full; but

During Fast Work, digestion is suspended. Of this we have not indeed any positive proof, but there is good reason for believing it. In the general commotion excited by voilent exertion, the stomach can hardly be in a favorable condition for performing its duty.

The blood circulates too rapidly to permit the formation of the gastric juice, or its combination with the food; and, it may be, the blood and the nervous influence are so exclusively concentrated and expanded upon the muscular system, that none can be spared for carrying on the digestive process. But this is mere theory.

The Effects of Fast Work on a Full Stomach are well enough known among experienced horsemen. The horse becomes sick, dull, breathless. He is unwilling, or unfit to proceed at his usual pace; and if urged onward, he quickly shows all the symtoms of over-work, to which I allude among the accidents of work. The effects are not always the same. Sometimes the horse is simply over worked, distressed by work that should not produce any distress. Some take colic, some are foundered, some broken-winded. The most frequent result is over-working in combination with colic. Perhaps the colic, that is, the fermentation of the food, begins before the horse is distressed; but whether or not, his distress is always much aggravated by the colic.

These effects are not entirely produced by indigestion. The difficulty of breathing may be ascribed to mere fullness of the stomach. Pressing upon the diaphragm, and encroaching upon the lungs, it prevents a full respiration; and its weight, though not, perhaps, exceeding eight or nine pounds, must have considerable influence upon a horse that has to run at full speed, and even upon one who has to go so far, though not fast.

Some horses commence purging on the road, if fed directly before starting. They seem to get rid of the food entirely or partly; for these, which are generally light-bellied horses, do not suffer so much, nor so often, from any of the evils connected with a full stomach. The purgation, however, often continues too long, and is rapidly followed by great exhaustation. They should be kept short of water in working days, and they should have a large allowance of beans.

All work, then, which materially hurries the breathing, ought to be performed with an empty stomach, or at least without a full stomach. Coaching-horses are usually fed from one to two hours before starting, and hay is withheld after the corn is eaten. Hunters are fed early in the morning, and I believe racers sometimes receive no food on running days till the work be over. Abstinence, however, must not be carried on so far as to induce exhaustation before the work commences.

After Fast Work is concluded, it is a little while ere the stomach is in a condition to digest the food. Until thirst has been allayed, and the system calmed, there is seldom any appetite. If the horse have fasted long, or be tempted by an article of which he is very fond, he may be induced to eat. But it is not right to let him; a little does him no good, and a full feed does him harm. The stomach partaking of the general excitement, is not prepared to receive the food. Fermentation takes place, and the horse's life is endangered; or the food lies in the stomach unchanged, and produces founder.

Food, then, is not to be given after work till the horse be cool, his breathing tranquil, and his pulse reduced to its natural standard.

By the time he is dressed and watered, he is generally ready for feeding.

Salt and Spices aid digestion. On a journey, or after a severe day, horses often refuse their food. When fatigued or tired of his feed, a handful of salt may be thrown among the horse's corn. That will often induce him to eat it, and it will assist digestion, or at least render fermentation less likely to occur. Some, however, will not eat with this inducement.—Such may have a cordial ball, which in general produces an appetite in ten minutes. I am speaking of cases in which the horse has become cool, and those in which the work has not fevered him. The horse should always be cool before food is offered; and if his eye be red, and pulse quick, cordials, salt, and the ordinary food are all forbidden. The horse is fevered. [*N. Y. Spirit of the Times.*

ON REARING CALVES.

Messrs. Gaylord & Tucker,—D. B. C. in the first No. of your ninth volume, wishes information on the treatment of calves for the butcher or for rearing. I do not say I know the best way; but from some experience I can inform him of a good one. For the butcher, I let them take all the milk they will from the cow (and if one does not give enough, I give them more) till they are five or six weeks old; keep them in a close dark place, clean and dry, and they never fail of being good. For rearing, I take them from the cow soon after they are dropped, and feed them with new milk for the two or three first weeks. I then set my milk from morning till night, take off the cream, boil potatoes or beans, and mash them fine, and put them with the milk, adding a very little salt. I feed them with that food till they are twelve or thirteen weeks old, when I begin to wean them by reducing the quantity; at the same time put a trough in their pasture, where I put dry oats, and they soon learn to eat them—one pint per day each through the summer. In the fall, or first of foddering time, I feed them that mess morning and evening. Through the winter, feed hay, corn fodder, oats in sheaf, and when the weather is not extremely cold, give them a few potatoes, carrots or turnips, with plenty of clean water and salt, and be sure to protect them from all inclement weather. In the spring, I turn them in pasture with other cattle—no extra care. My heifers never fail to come in at two years old as large as my neighbors' are at three. Be the feed what it will, they have a plenty. If my cattle from any cause get troubled with lice, I have a remedy which I have never seen in the Cultivator. I keep a box of fine dry sand in my barn, and if I discover any lice in them, I put it on from back of the horns the whole length of their back a few times; it has never failed to effect a cure. It may be observed

that cattle, or any animal that has free access to the ground, are seldom troubled with lice in summer.

If you think the above remarks worth notice, they are yours. I have used many words to convey a few ideas, but I could not make them plainer with less. I have been for several years a careful reader of your paper, and surely I have derived much benefit from what I have learned from others' experience.

LEWIS NUMAN.

Glen's Falls, Feb. 14, 1842. [*Albany Cultivator.*

REARING CHICKENS.

Messrs. Editors,—Having made some experiment in the rearing of chickens, a business that forms a part of every farmer's occupation, I send you a discription of my present plan of opperation, which appears to answer admirably. Under an out house 16 by 18 feet square, raised 3 feet above the ground, making the height 6 feet altogether. Eight feet in width of this cellar is partitioned off for turnips, the remaining, 10 by 16 feet, being sufficiently large to accommodate 100 chickens, or even more. This cellar is enclosed with boards at present, but it is intended to substitute brick walls in a year or two. The roost is more sloping from the roof to within 18 inches of the ground or floor; 12 feet long by 6 feet wide. The roost is formed in this way; 2 peices of two inch plank, 6 inches wide and twelve feet long, are fastened parallel 5 feet apart by a spike or pin to the joist above, the lower end resting on a post 18 inches above the ground.—Notches are made along the upper edges of these planks, one foot apart, to receive sticks or poles from the woods, the bark on. When it is desirable to clean out the roost the poles being loose are removed; the supports working on a pivot are raised and fastened up, then all is clear for the work of clearing out. I next provide the chickens with corn, oats, and buckwheat, in 3 seperate apartments, holding about half a bushel each, which are kept always supplied. They eat less, I find, if allowed to help themselves to what they want than if fed to them in the usual way; for in the latter case each tries to get as much as it can, and thus burdens itself, but finding in the former case that they have abundance, they eat little and that generally in the morning early, and in the evening going to roost. I have 60 chickens, and they eat about six quarts per day of the three kinds of grain, in the proportion of twice as much corn as buckwheat or oats. In the roost is a trough of water, renewed every day; burnt oyster shells, shell-marl and ashes. A row of nest is constructed after a plan of my own, and does well. It is a box 10 feet long and 18 inches wide; the bottom level, the top sloping at an angle of 45 degrees to prevent the chickens roosting on it; the top opens on hinges. The nests, eight in number, are one foot square; the

remaining six inches of the width is a passage way next to the wall, open at each end of the box. The advantage is to give the hens the *apparent* secrecy they are so fond of.

When fed plentifully in the winter, hens lay enough eggs to pay for the grain, and in the spring they will repay four-fold.

E. H. VANUXN.

Long Branch, N. J., Feb. 17, 1842. [*Ibid.*

HEN'S EGGS.

I notice in the Farmers' Cabinet for 4th mo. last, p. 275, an inquiry as to the truth of the assertion, that hen's eggs which are *round* produce females chickens, and those which are *long* or pointed, produce males.

When a boy, I was in a situation to be able to indulge my fondness for fowls, and often raised chickens;—without ever having heard of the above facts, I discovered that the eggs which approached the nearest to the roundness always produced females, and those which were pointed at one end always produced males—I acted accordingly, and always succeeded in obtaining females or males according as I wished.

After a lapse of a number of years, being in Philadelphia market, I happened to mention the fact to one who raised chickens for sale, and who preferred the males, because they grew larger—the information was received with some surprise; but I advised the person to try it, and afterwards was informed of the entire success of the experiment, all males being produced by selecting the long or pointed eggs.

I since find the fact was mentioned by a writer over 2000 years ago.

L. H.

[*Farmers' Cabinet.*

For the Southern Agriculturist.

BUR COTTON.

Mount Pleasant, Barnwell District, (S. C.,) May 27th, 1842.

Editor of the So. Agriculturist:

DEAR SIR,—In my communication published in 5th No. of the *Southern Agriculturist*, (page 237,) there are several errors, which you will be kind enough to correct by publishing the following statement:—Of the Bur Cotton I planted one acre and a quarter; off of this I picked upwards of two thousand pounds of Seed Cotton—when gined, making six hundred and forty pounds of clean Cotton. From one acre, of similar land, planted in the Petit Gulf seed, I picked only one thousand pounds of Seed Cotton, which shews the great superiority of the Bur Cotton.

Respectfully, yours, U. M. ROBERT.

HORTICULTURE.

THE KITCHEN GARDEN.

[As mentioned in our first note, we re-publish this small work entire, and without alterations of any kind, but it will be borne in mind by our readers, that these directions are intended for the climate of England, which is cooler and moister than ours in summer and colder in winter, which necessarily occasions a change in the times of sowing and cultivating certain vegetables such as urnips cabbages, &c. The season for performing these operations also vary; and we refer our readers to the calendar published in th last volume of the Agriculturist for particular directions as to time, and we will only observe, that as a general rule, the spring operations should be performed in a month earlier, and the fall, a month later, than indicated in this work, that being about the difference in our climate.—Ed. So. Ag.]

THE KITCHEN GARDEN:

A hand-book for Cultivators, containing full directions for the profitable culture of all kinds of culinary Vegetables. By James Main, A. L. S., author of "Flowers;" and "Fruit Trees."

(Continued from page 264.)

CULTIVATION OF ESCULENT PLANTS WHOSE LEAVES OR LEAF-STALKS ARE CHIEFLY USED.

Of the Cabbage, *(Brassica oleracea)*.—This most common of culinary vegetables is luckily most obedient to the cultivator's purposes, insomuch that by attending to the different periods fixed on by experience for sowing the seed, good cabbage may be had for use all the year round. Early sorts which form heads are fit for table in the month of May are most prized; and to have them good at that season is a special object of the cultivator. With this object in view he sows the earliest varieties on a rich well manured airy spot, same time between the twenty-fifth day of July, and tenth day of August. If sown before that time many of the plants run to seed without heading; and if later the heads do not come in soon enough for the table. From this sowing is raised the principle crop; but as young cobbage are required in every month of the following year, sowings are made at several times: for instance, another seed bed is sown in September, and others in February, April, and June; from which sowings young plants may be had to keep up a regular supply all the year round.

The subsequent management is as follows: as soon as the seedlings are large enough to handle, the largest are drawn from the seed-bed and pricked out upon a well prepared nursery-bed, four and five inches apart. This removal, by giving each plant more space, and fresh pasture for their roots renders them stocky and in fine condition to be placed in their final station about the middle of October.

Another method is, instead of using a nursery bed, to prepare a part of the ground which is intended to be their final station, and on this prick out the largest seedlings twice as thick as they should untimately stand—say, in rows ten inches asunder, and the plants seven inches apart in rows. About the middle of October, sooner or later, as circumstances allow, all the ground being prepared for the supernumeraries, each intermedate row and each intermedate plant in the standing rows are transferred to their proper places on the vacant ground, to complete their plantation. The whole will then stand in rows twenty inches apart, and the plants ten inches asunder from each other: which distances are sufficient for the earlier and dwarf-growing species.

It is usual to make two or three plantings from each seed-bed, in order to ensure an uninterrupted supply of young cabbage when in best order; for old, hard, white heads are unfit for genteel tables.

One great advantage belonging to this excellent vegetable is its being fit for use in any stage of its growth. When half-grown, they are called plants or colworts, of which description, being beautifully green and tender, many more are consumed than the full-grown. Colworths are sown in June and July, transplanted as soon as fit, into rows six inches apart every way, for autumn and winter service; and those that do not run to seed in the spring are good substitute for spring cabbage. Indeed, such greens are acceptable in every month of the year. The York, Battersea, and sugar loaf sorts are the best for colworts.

The bulk, as well as the quality, of the crop, varies with the character of the soil. In light, sandy, and moderately rich ground, cabbage are earliar and sweeter in flavour, though yieldings smaller heads; of course, in very rich land, (and all the tribe require such land) the crop is some what later. But on any ground, in good heart, if well digged and prepared, a crop seldom fails, if the plants are frequently hoed among, and properly earthed up.

The whole of the Brassicæ family are, when the seedlings first appear, subject to be destroyed by finches, slugs, and the turnip-fly, all of which must be guarded against. This tribe of plants is also subject to the attack of a small beetle, which insert their eggs within the cuticle of the roots and stem, over which tubercles are formed, called "clubbing" by gardeners, and "fingers and toes" by farmers. No certain remedy has been discovered for this evil; but it is believed that soap-boilers' waste is beneficial; and it is probable that if the seed-beds are frequently watered with strong soap-suds, it might be a preventive. Smearing the roots before planting, in a puddle of earth, soot and lime, is an old remedy, but always effectual. But one thing is practicable, and that is, to transplant no club-rooted plant without first cutting off all the deformities with a knife, to expose and destroy the little maggots within.

It has been already observed, that the earliest crops come into use about the first of May; and it is usual before that time to tie up the forwardest with a string of matting which serves to blanch the centre leaves. If the plants be true in kind, and have had equal treatment, many come in together; in which case it is a good plan to begin at one end of the piece and clear away row after row as wanted. Thus clearing the ground which may be re-cropped without loss of time.

Red cabbage are sown in the autumn for the next summer's consumption, and in spring for autumn and winter. They require an open, airy situation, where they may have full sunlight; and they require more space than the common kinds, succeeding best in single rows, as in the alleys between the beds of dwarf-growing crops.

Of the Savoy, *(Brassica oleracea sutanda)*.—This plant attains to a large size and weight of head, and is chiefly used in winter, after the frost has mellowed its substance and flavour. The plants are raised from seed sowed about the middle of April; are pricked out in nursery beds, where they may stand till about the beginning of July, when they are planted in an open quarter in rows thirty inches asunder, with fifteen-inch intervals between the plants. Hoeing between and earthing up is all the culture they require. The ground cannot be too rich for savoys, if they are wished to be large. After the head is cut, the stem produces an abundance of sprouts which are sometimes useful when other greens are scarce.

Brussels Sprouts are a subvariety of the savoy. The head is open and inconsiderable; but from every bud on the tall stem come forth a vast number of little compact heads of excellent quality, and for which the plant is chiefly cultivated. The seed should be sown about the middle of April, transplanted into rich ground about the beginning of July, in rows three feet apart and half that distance between plant and plant in the rows; they are afterward treated like cabbage. The sprouts are chiefly used in winter.

Of Borecole.—This is a subvariety of the cabbage commonly called Scotch kale, of which there are several kinds, as the tall and dwarf green, the brown, the Jerusalem, the Buda, Anjou, and Milan. They are all raised from seed sown in April, transplanted into open order in summer for winter and spring use. The curled-leaved Scotch kale is valued for its extreme hardiness, withstanding frost which kills every other sort of greens.

Of Lettuce, *(lactuca sativa)*.—This is one of our principal salad plants, it being pleasant in flavour, sanative, and easy of cultivation. The upright growing varieties called cos-lettuce are mostly used as salad; the horizontal-leaved, called cabbage-lettuce, are also, in every stage of their growth, useful in salads, but they are particularly prized for stewing and for other purposes in high

cookery. As lettuce is an annual and quickly runs to seed in warm weather, it requires to be sown at many different times to continue a constant supply. For the earliest spring crops seed-beds are sown in August, whence a part of the plants may be removed in October into frames, or to some warm dry situation, where they may be sheltered from the north and east winds, and be occasionally covered with mats, dry fern, or branches of evergreen trees, during severe frost.

To have fine full-grown cabbage-lettuce for the cook during the winter, substantial beds of hot stable dung are made successionally, and covered with a frame and lights. The frame is filled with very rich compost up to within four inches of the glass. On this, plants of the grand admirable variety are raised from the seed bed sown in August or September, and are planted nine inches apart. As the compost is of considerable thickness, there is no fear of the bottom heat being extreme; but this should always be enough to allow of the lettuce having fresh air daily to impart colour and substance to the plants. In this way of forcing cabbage-lettuce it attains to nearly as great bulk and perfection as it does in the open air.

Plants for the principal crop of cos-lettuce are raised from seeds sown on a mild hot-bed in autumn, and planted out in the open air as soon as the weather permits in January, or as soon after as possible. These plants are much drawn, and appear very delicate when planted out, but they seldom suffer even from keen frost.

Seed-beds for all sorts of lettuce should be sown in warm situations in every spring month, in order to have a full summer supply. The sowings of March and April may be drilled where the plants are to stand for good. And the common white, and brown Dutch cabbage sorts sowed in autumn, transplanted to the base of a south wall, or on a warm south border, are very serviceable for salads in spring.

Lettuce requires the very richest soil, and the more luxuriant it grows the better it is. The surface round the plants should be kept loose by the hoe; and when nearly full-grown they should be *banded* to assist blanching the heart leaves. The brown Silesia is a very superior variety, and attains to a large size, and is delicately crisp.

OF ENDIVE, *(Cichorium endivia)*.—The properties and uses of endive are similar to those of lettuce, though it is less crisp and more bitter. But endive is capable of being beautifully blanched, which improves it both in flavour and tenderness. It is an annual which quickly runs to seed, and therefore is never sown early in our growing season. If particularly wanted in summer, a small bed may be sown about the 1st of May; but these plants will certainly run to seed before they acquire full growth of leaves to be useful. Plants raised in June arrive at greater perfection, but not so much as those which are sown for the principal crops in July, August, and September.

Endive requires a very rich and mellow soil, and on this the seed may be sown either in drills or broad cast. If in drills, the plants must be thinned to fifteen-inch distances, and if broad casted, the plants will require similar spaces. The supernumeraries serve to be transplanted at the same distances apart on other ground, thus giving two crops from the same sowing.

Blanching endive is a principal part of its management, and is accomplished in various ways. When planted in rows, broad boards laid along upon the plants by excluding light blanches the leaves in a very few days. Or if in dry weather the leaves be gathered up together and bound with matting, and then earthed up with the spade, nearly covering the points of the outer leaves, blanches the interior effectually. Some growers use tiles or pieces of board for the same purpose, all which contrivances answer well in the open air. But when winter approaches, provision must be made against frost, and to preserve the plants in perfection as far into the spring as possible. With this view, glazed frames or pits or even sheds having within them beds of very dry earth or sand, are thickly planted with full-grown plants tied up with matting, as closely together as they can be inserted. Observe that no water should be bound up with them, nor any suffered to fall upon them after they are bedded. In order that the endive be not spoiled by water accidentally falling upon or bound up with them, some gardeners make their sand-beds like a ridge, placing the plants in rows, one row above another, with their tops drooping downwards to allow water to drain away from them.

All these expedients are had recourse to for preserving endive throughout the winter; for in most families it is an indispensable article as well for stewing as for salads.

There are three varieties of endive, namely, the green-curled, white-curled, and the Batavia. The two first are best for the main crops; the latter being more tender is unfit for winter use.

Another plant allied to this is the chiccory or succory, a British perennial herb, sometimes sown by farmers as a green forage plant; and also raised in gardens as an ingredient in winter salads. For this purpose it is transplanted from the garden to a bed of good soil made in a dark and damp cellar, where it produces leaves in abundance, and being finely blanched are mild in flavour, crisp, and wholesome. Dandelion was formerly in this country, as it still is in France, cultivated and blanched like succory as a salad plant; but it is now superseded by lettuce and endive.

Of Spinach, *(Spinacia oleracea)*.—A common culinary annual cultivated for its mild flavoured sanative leaves. The principal crop for winter and spring supply is sown either in drills or broad-cast about the 10th of August. There are two sorts, namely, the round-seeded having roundish leaves; and the prickly-seeded having angular leaves. The latter being the hardiest, is sown for the winter crop; and the former being somewhat more tender, is

sown in every month from January to July, to furnish constant supplies during summer.

The larger and more substantial the leaves are, the more this vegetable is valued; and, therefore, it is always sown on richly dressed ground: and when the seedlings are an inch or two high they are hoed out to five-inch distances, and always kept free from weeds. In order to increase the size of the plants some practitioners form shallow trenches, in the bottom of which rich moist rotten dung is digged, over which the seed is sown: the plants are thinned out to ten-inch distances, to increase their growth; and growing in trenches proteets them from the cutting winds of winter and early spring. The summer crops are fugitive, and are used soon as the leaves are full grown.

New-Zealand Spinach, *(Tatragona expansa)*—is a spinacious plant partially cultivated. A patch of it is sown on good soil will spread and continue itself by self-sowing for years.

The leaves of the green and white beets are occasionally used instead of spinach. A drill or two of each is sown in April; when the seedlings are up they are thinned, leaving twelve-inch intervals between plant and plant; at the same time hoeing up all weeds. The tenderest leaves may be used at any time in summer and autumn. The leaf-stalks and thick ribs of the leaves are also usable when peeled, and under the name of chard are dressed and eaten like asparagus.

OF ALEXANDERS, *(Smyrnium olusatrum)*.—The blanched stalks of this plant are sometimes used in both soups and salads. Although a perennial, it is customary to raise the plants from seeds sown in drills in spring, and after being thinned to six-inch distances, are, as they advance in growth, earthed up like celery. This vegetable, however, is now seldom cultivated.

OF ANGELICA, *(Angelica archangelica)*.—A large perennial aromatic herb, raised from seed sown in autumn or spring for planting, and in summer in rows three feet apart. The stems are mostly used by the confectioners for candying, &c.

OF THE CARDOON, *(Cynara cardunculus.)*—A species of artichoke, the large leaf stalks of which are blanched for use. Seed is sown thinly in spring, and transplanted into rows four feet apart, and at three feet between the plants. They attain to a large size before the end of autumn, and then are fit to be tied up for blanching. This is done when the inner leaves are quite dry; the whole being gathered up and held by one person, while another enwraps the whole together with a straw band. Each plant is then surrounded by a cone of loose earth. In this state they remain for use; but they must be carefully guarded against frost by straw, or some other kind of covering that will be equally effectual. They continue in use till the end of spring.

OF CELERY, *(Apium graveolens)*.—A British plant found in ditches, and in that state is called smallage. It has been wonderfully

improved by cultivation, both in bulk and flavour, and ranks as a first-rate salad plant as well as one of the most useful in the kitchen.

It is either annual or biennial. If sown early in the season, it runs to seed in the summer; but if sown after the 20th of April, it does not shoot up its flowering stem till the following spring. Of course the plant, having acquired full size, and the lower parts being thoroughly blanched by culture, is in its prime throughout the winter.

Ever since its introduction into gardens the object of the cultivator has been to increase its size, and dispel its naturally heavy scent and harsh flavour; by denying its natural aptitude for stagnant water, and enclosing its leaf-stalks from impact of air and light. This has been accomplished in the course of time by growing it in trenches on highly enriched soil, and keeping it gradually earthed up as it advances in height. By this practice the plants are always progressing towards perfection; and at any time during this progress a part of every individual plant is fit for use.

In order to have celery as early in summer as possible the two first sowings are made in February and March, and brought forward by hot-bed or hot-house heat. The seed is sown in large pans or shallow boxes; and when fit to handle are pricked out on a slight hot-bed, there to get sufficient size to go into shallow trenches in May and June. Of these sowings, however, but small quantities are put out, for they soon run to seed.

The principal crops of celery which come into use from Michaelmas to near Lady Day, are produced from seed sown between the 5th and 30th of April. A warm open border, having a southern aspect, is the best situation for a seed-bed: and a similar station should be chosen for the nursery-beds on which the young plants should be pricked out four inchea apart soon as they are fit. The seed being very small, some pains should be taken to reduce the surface as finely as possible with a rake before sowing, and a very slight covering in with the same implement suffices. If the ground be dry, a little water with a fine rose may be given; and if dry sunny weather, mats should be laid over the bed till the seedlings appear; and afterward the bed should have occasional soakings to accelerate the growth, in order that the plants may quickly go into the nursery-bed.

Celery in every stage of its existence requires a rich mellow soil; it is a "gross feeder;" and can scarcely be offended by the application of the richest dress for the roots, though the stalks may be blanched by the purest sand, or most puffy moor-earth. The plants in the nursery-bed will have attained sufficient size to be transferred into trenches about the 1st of July, sooner or later according to the season. The trenches are made in an open part of the garden, parallel with, and at four feet distances from each other; these are made twelve inches wide, and if the staple allows

as many deep; the soil taken out is laid and equally spread on each side of the trenches. The latter then receive a layer of very rich rotten dung three or four inches thick, which is digged into the bottom to receive the roots of the plants. The earth turned up by the spade covers the dung; and on this the plants are dibbed, six inches apart, in a row along the middle. The planting done, each trench receives a good drenching of water to start the plants, and which is repeated in a day or two afterward if necessary.

Thus situated the plants grow vigorously; and soon the process of blanching commences. This is by paring with the spade a little of the earth from the sides of the trenches, and letting it fall loosely against the leaves. This earthing-up, while the plants are advancing in height, is required, perhaps, once a-week until the 1st of November, when the celery contained in a ridge of earth is perhaps three feet high, with only the points of the leaves exposed, and which finishes the culture.

There are two opinions held relative to the best method of blanching celery. The above statement shows how it is blanched during growth; and in a private garden where the best celery is required all summer, the gardener must blanch it in this way. But it is supposed, and with some show of reason that the roots by being so deeply covered up are less active than if they had full and free air; and therefore it is advised not to earth up the plants while growing, but to suffer them to arrive at full growth, and then earth them up to the full height at once. This culture certainly brings the plants to full amplitude: but the outer leaves are never thoroughly blanched; and of course there is much waste; unless it is grown for union workhouses, hospitals, or barracks. This method of cultivation answers the purpose of the market-gardener; but can be only partially useful in private gardens.

Another method of growing celery may be described;—a trench, five feet wide is digged out to the depth of one foot; the bottom of this sunken bed is covered with a coat of rich, moist rotten dung, and digged in; on this the plants are put in cross rows, one foot apart, and the plants six inches from each other in the rows. As the plants advance in height, the spaces between the rows are from time to time filled up by well broken earth taken from the sides till the bed and plants are three feet high or more; and should severe frost occur, the whole may be covered with mats or some kind of dry litter; which is one great advantage of cultivating celery on this plan; for this crop is often lost or much damaged by frost at the very time it is most in request.

The principal crops of celery are planted in July and August; it may also be put in trenches as late as September; but the last planted out require but shallow trenches, as the plants grow but very slowly after that time.

As celery is naturally an aquatic, some persons have thought that making the bottom of the trenches water-tight with clay,

would be an improvement; but although the bulk is increased, the flavour is deteriorated as it partakes too much of its natural rankness.

There are several varieties of celery in cultivation; but the solid white and red, and the giant varieties are most esteemed.

Of Celeriac. This is a very distinct variety of celery, having a large tuberous stem like a turnip, which is the eatable part, thinly sliced in salads or in soups. It is sown in April, and managed like celery, except that when the seedlings have been nursed to a proper size, they are transplanted into rows twelve inches apart and at the same distance between plant and plant, on the level surface instead of in trenches. It requires no blanching; but should be defended from frost by storing it in sand in winter.

Of Rhubarb, *(Rheum hybridum)*.—This celebrated medical plant has become, within these last forty years, one of our most extensively cultivated and useful culinary vegetables; answering the purpose, and as an excellent substitute for green fruit when no such thing is to be had. For family use, and particularly for children, rhubarb puddings, pies, &c. are as economical as they are gratifying; for besides its value as most palatable food, its medicinal properties in their mildest state are also partaken of in our ordinary meals.

It is the leaf stalks and ribs of the leaves which are dressed; of course the most luxuriant growing varieties are preferred, and every means are imployed to bring every cultivated variety to the greatest possible bulk of foliage. As rhubarb is one of our largest herbs, it naturally requires a rich and deeply trenched soil, and an open airy space for the expansion of its leaves. The plants are usually raised from seed sown in the spring very thinly; and in autumn may be planted out for good. Two or three rows across the quarter of the garden will yield stalks enough for the consumption of a large family. The plants must stand four feet apart; and must be partially stripped of their leaves consecutively; that is, two or three leaves only should be taken from one root at a time, and those plants which are stripped this year, should not be again stripped in the next; for the roots are weakened if divested of too many of their leaves at one time.

The value of this plant is enhanced by the ease with which it may be forced for use at any time in the winter, or before it is ready from the open air. This is done either on a dung hot-bed, or in pots or boxes on the flues of a hot-house, or even in a warm corner of a kitchen. The hot-bed need not be very substantial; it is covered with five or six inches of good mould; on this, the roots of plants sown in the previous month of April are placed closely together over the surface, and covered with two inches more of the mould. The lights are then put on, and a lively heat is maintained by coverings of mats at nights, and by fresh linings if necessary. When the roots have yielded their leaves, they may be returned

again to the open ground to recover their strength for future purposes. If large pots or convenient-sized boxes are used, the roots are packed in them as closely as possible and covered as before. These, as already said, may be placed in any convenient place in a hot-bed, pit, or forcing-house, where the leaves will be produced with very little care.

There are several species and varieties of rhubarb in cultivation, namely the palmated, the hybrid, and the raphontie, and many others lately raised; among these last there is one called the Goliah, most remarkable for exuberant growth and size of its leaves.

Confectioners convert rhubarb stalks into various other purposes besides simple boiling or baking. A very good jam, or rob can be made of it, and several other confectionary articles.

TUBEROUS ROOTED SORREL, *(Oxalis crenata).*—A culinary plant, introduced a few years ago from South America. It partakes of the nature of the potatoe, being impatient of frost but flourishing during our summer. The numerous succulent stems may be used for tarts and pies as rhubarb is; and the tubers are used like potatoes.

OF AMERICAN CRESS, *(Lepidium virginianum).*—An annual plant with leaves like the water cress, used in winter salads and for garnishing. The seed is sown about the end of August in drills ten inches apart and on dry light soil in a sheltered situation. As the plants are liable to be damaged by frost, they should be protected by dry litter or branches of trees laid over them when the weather is severe.

OF THE COMMON CRESS, *(Lepidium sativum).*—A favourite salad plant, the seminal leaves being chiefly used; on which account it is sowed once a week throughout the year in close thickly sown drills in the open air during the growing season; and by heat under glass during winter.

Mustard, rape, and raddish seed are usually sown and raised at the same time, and for the same purpose as is the common cress, all having the name of small salading.

OF THE WATER CRESS, *(Sisymbrium nasturtium)*—is a wild plant in all our shallow rivers. They are cultivated for market in several counties of the kingdom; and may be grown in any shallow rivulet by transplantation from where they are naturally found.

The leaves, portions of the stem, and flowers of several under shrubs and herbs, the latter annuals, the former perennials, collectively called Pot-herbs, have a place in every superiorly cultivated garden. The annuals are anise, basil, borage, carraway, clara, coriander, cummim, dill, sweet marjoram, marigold, purslane, and summer savory. All these (except basil, which is usually raised in a hot-bed) are sown in small patches in the spring, and ripen seed in the autumn; but as the leaves of most of them are used in a dry state, they are cut for drying when in flower. Purslane is an ingredient in summer salads, and where much is wanted is raised

in one light hot-bed; but small quantities may be raised in pans set in melon frames.

The perennials are parsley, sorrel, balm, burnet, fennel, camomile, hysop, lavender, mint, peppermint, pennyroyal, winter marjoram, rosemary, tansy, sage, thyme, rue, tarragon, and chives. The first is an indispensable article in the kitchen, and therefore found (and often sown as an edging to borders,) in every garden. The curled varieties are most valued; and the best season for sowing is as soon as the seed is ripe; and which secures a constant supply in all following seasons, especially if defended from dry frosty winds in the spring. Tarragon is a fine ingredients in salads; and is propagated either by cuttings of the stems, or by divisions of the roots. Chives are a diminutive sort of onion, and are grown in patches of many roots, adhering together and increased by division. The numerous slender leaves are used in salads or alone at table as young onions.

(To be continued.)

RUTA BAGA.

I have succeeded very well these four years in growing the ruta baga. I have had each year about 600 bushels to the acre; this season the drought and the fly injured by turnips some, but I have an average crop still. I consider it a very valuable crop, as I have sold them at from four shillings to six shillings per bushel, and in the spring, my horses, oxen, cows, sheep, hogs, and even the poultry eat them and do well on them, and they are remarkably good for horses that have got the heaves, and also a good preventive for that disease.

My method of cultivating the ruta baga is the same that is practised in Scotland. I plough the ground in April, and on the 20th of June harrow it, and cross-plough and harrow until the ground is perfectly fine. I then draw my drills with the plough two and a half feet from the centre to centre; I then take a one-horse cart or wagon, but a cart is best, as the drills are injured with so many cart wheels turning on them; I put manure in each drill as for potatoes; then I take the plough and split the drills right and left; then I take a right roller long enough to reach over two drills, with one horse, and roll the tops of the drills once over; then I take the drill-barrow and sow the seed; then I pass the roller once over the seed; when the turnips are up about two weeks, I go through with a hoe and thin them, leaving them eight inches apart; and in two weeks more, I plough between the rows; I then go through with the hoe and clean the tops of drills of all weeds and grass and in about three weeks more I plough them again; then in the fall I take a scythe and cut as many tops as the stock

will use in one day, and so until all the tops are used; then take a dung-hook and drag out all the turnips, make pits that will hold about six loads; mske the pit two feet wide and two feet deep, and build them up like a roof, the more above the ground the better, as they will not keep if they are warm; cover with a little straw to prevent the earth from going among the turnips; for each pit makes three little flues for ventilators; then put on from four to five inches of earth, clapped well down with the spade. The turnips will keep better in this way than in a cellar, as a celler is too warm. JOHN BODDEN.

CARROTS—SOIL FOR THEM, &c.

There is no *better* root, so far as quality goes, and so far as its fitness for all kinds of stock is regarded, then the carrot. Given to cows, it makes rich milk, and sweet and yellow butter. Horses, oxen and swine, all do well upon it. The *Long Orange* is most extensively cultivated, and is a good variety. The *White* carrot, which is not general known, for its introduction here is recent, has proved more productive than the yellow: it grows partly out of ground, and is for that reason more easily harvested. Its comparative quality has not yet been satisfactory ascertained.

For this crop we prefer a light but deep soil—loamy, or a sandy loam. Soils somewhat gravelly, if plowed deep, are friendly to this root. The land should be well dressed with fine manure, which should be well mixed in by plowing and harrowing.

If one intends to sow upon a flat surface a convenient way of preparing is to plough about three furrows on each side of a land, and then rake whatever stones or lumps there may be on them, into the furrow last plowed; when this has been done, plough three furrows more, and rake again; and so on until the whole is finished. Then sow the seed in rows about 15 inches apart; from 1½ to 2 lbs. of seed is needed per acre.

But if one chooses to sow in ridges, (and this is probably the most economical way,) then, after the manure has been well worked into the surface, take a horse plough and turn two back furrows together, thus making a ridge: continue to do this until the whole piece is put in ridges. Rake the tops of the ridges, and then sow one row on the top of each. These ridges may be 20 to 24 inches apart. If the latter distance is used, a horse plough or small cultivator may be used in the after tillage. Ridging, compared with the flat surface, requires less seed; it gives fewer rows to weed and thin, and fewer to dig at harvest time. The results of our observation and inquiries is, that the ridged ground usually gives as many bushels per acre as the flat surface. If we are not mistaken on this point, the reasons for ridging are surely very strong. An acre on flat surface, with rows 15 inches apart, requires from

18 to 24 days work to hoe and weed it three times. On ridges 24 inches apart, where the horse can be used, the labor would be but little more then half as much. Sow from the 10th to 20th of May: [February and August in So. Carolina.]

SUGAR BEET.

The sugar beet and mangle wurtzel are very similar in the soil they like, and in the mode of treatment they require. Each prefer a warm, moist and rich soil. They are great water drinkers, and if they once suffer much from lack of moisture, they never recover well from the check then received. The preparation of the ground is the same as for carrots, when they are sowed on ridges. The sugar beet is very valuable for milch cows, causing a full flow of rich milk.

There prevails an opinion that the mangel wurtzel is unfriendly to the health of cattle. We think this, partly at least, the results of prejudice.

Sow both of these about the first of June. One and an half lb. of seed per acre:—[February or August in So. Carolina.]

NEW-YORK METHOD OF RAISING WATER MELONS.

Gentlemen,—In answer to your inquiry, how to raise water-melons, I can only relate the results of my own experience, and that, such as it is, is at your service:

First, get good seed; by this I mean seed from the earliest Long Island or New-Jersey melon, of good size, shape and sweetness, and from a melon which grew near the root of the vine.

If your soil is not sandy, prepare your hill with about two bushels of good sandy soil, and mix with it liberally, the manure well fermented, of the hog-pen, the hen-roost, the sheep-fold or the stercorary. Place your hills ten feet apart every way: place your seed about one inch deep, and lay flat upon the smooth surface of the hill a pane of glass which must not be removed till the plants show themselves; hoe often, but never when the sun is on; watch carefully for bugs and worms, and kill them; sow the intermediate space with radish, lettuce and early beans, all of which you will remove as the vine wants to occupy the ground. As the vine grows pluck from the hill the poorest plants till you have pulled up all but one or two. Set out in the hill at the time of planting, a garlic, or an onion, or a shalote. If the drought injures the plants, prepare a quantity of water in a trough mixed with a little lime or ashes, and very strong with hog or sheep manure, and with this water liberally, if at all, but never wet the leaves.

The advantage of the onion in the hill is to drive away a variety of insects; of the pane of glass is to quicken the germination of the plant; of the intermediate plants is to occupy the ground, as a matter of economy, and also to afford aliment for the worms in the ground, which would otherwise feed on the mellons.

By proceeding in this way, the writer has never failed to raise a great abundance of mellons, of good size and the very best quality; they often weigh thirty-three pounds. I raised one last summer that weighed forty pounds. C. E. CLARKE.

Great Bend, Jefferson Co., N. Y. [*U. S. Farmer.*

REMARKS ON SEEDS AND SEEDSMEN—SOWING SEEDS, CAUSES OF FAILURE, &c.

THE production of living plants from small grains of seed dropped in the earth, is one of the most wonderful and beautiful operations of nature. When examined by the light of science, it is found to be effected by the combined agency of earth, air, moisture and heat; and to ensure success, it is necessary that these four elements be combined in due but different proportions, according to the nature and habits of the different kinds of seeds. Hence arises the difficulty of causing some kinds to vegetate; and the uncertainty which gardeners generally feel respecting many of their crops until they see the young plants appear. Hence, also, arise most of the complaints which are made to seedsmen, and the censures which are unjustly cast upon them by inexperienced cultivators.

In order to explain this subject, and with a view to lessen the evil, the Proprietor of the Rochester seed-store has added the testimony of several highly respectable and successful cultivators in the country, and some accounts of their methods of preparing and sowing several of the most important kinds of seeds that are liable to fail with careless management.

The Editor of the Albany Cultivator, speaking on this general subject, says:—

"Seeds often fail to grow; and the seedsman is often faulted, for vending bad seeds, when the cause of their not growing is owing to the gardener or planter. To induce germination, moisture, atmospheric air, and a certain temperature, are indispensable; and it is also requisite that light be excluded from the seed, until the nutriment of the seed is exhausted, or until the root can draw nourishment from the soil. The first effect of the air, heat, and moisture upon the seed is, to change its properties—to convert its starch into sugar—into a sort of milky pulp, the proper food of the embryo plant. If at this stage, the seed becomes dry, its vitality is believed to be destroyed; but if these agents are permitted to use their influence, the contents of the seed swell by degrees, and the first point of the future root having formed, breaks through the shell in

a downward direction, and about the same time the first point of the future stem comes forth in an upward direction. The presence of the air, heat, and moisture are as indispensable to the growth of the plant, as they are to the germination of the seed.

"Now it often happens, that when seeds are planted in fresh stirred ground, or when the soil is most, they undergo the incipient progress of fermentation, and the earth not being pressed upon them, and dry weather ensuing, the moisture is abstracted, and the seeds perish. Too much moisture is also often destructive to the vital principle of seeds—and others again are buried too deep to be vivified by solar and atmospheric influence. The first object in planting, therefore, should be to place the seed just so far under the surface, and so to cover it with earth, as shall barely secure to it a constant supply of moisture. There are many seeds, as of the carrot, parsnip, orchard grass, &c., which if not previously steeped, or the soil well pulverized and pressed upon them, fail to grow for want of moisture. Hence, in sowing orchard grass, it is found prudent to spread it upon a floor and sprinkle it with water, before it is sown, and to pass a roller over the ground after the seed is sown; and hence, in light garden mould, it is advisable to press with the hoe or spade, the earth upon all light seeds after they are sown."

ON SOWING FLOWER SEEDS.

David Thomas, an experienced and very successful Florist remarks:—N. G. Farmer, vol. 1, p. 56.

"For large seeds, like the Bean or the Pea, a coarse soil is well adapted, as they can force their way to the surface from any moderate depth: but small seeds require different treatment; and we lay it down as a safe rule, the finer the seed, the finer should be the soil.

How does nature, exemplifying supreme wisdom, sow her most delicate seeds? She scatters them on the shady ground, trusting to the rain or the frost to cover them, (of course slightly,) and they germinate before the sun has acquired power enough to scorch them. The dust-like seeds of the Orchis and Cyripedium sometimes grow in beds of damp moss.

Common garden loam, whether clayey or sandy, is much improved by a dressing of vegetable earth from the woods, well mixed before planting. If prepared in the preceding autumn, and pulverized by the frost, all the better.

Such a soil is favorable to seeds of almost any kind, but *essential* to the finer and more delicate sorts. The preparation of the soil alone, however, is not enough. Fine seeds may be smothered if covered from more than one-eighth to half an inch deep; and their short roots may be parched if exposed to the sun except in morning and evening. To a *fine soil*, therefore, we must add the protection of *shade*, and in time of drought, a regular supply of

moisture. If the seed are sown in an open border, a sprinkling of water in the evenings is best, but carefully abstain from applying so much as will bake the ground."

ON PREPARING AND SOWING ONION SEED.

W. Risley—(N. G. Farmer, vol. 2, page 38,) says:

"First, soak the seed in water from six to twenty-four hours—some seed being slower to admit moisture than others, is the difference in the time required. After soaking, drain off the water, and mix the seeds with a sufficient quantity of earth to absorb the moisture remaining on the seeds; stir them often that they may vegetate evenly, and keep them in a moderate degree of warmth and moisture until they have sprouted, when they are ready to put into the ground. If the weather should be unfavourable, put the seeds in a cool place, which will check their growth. * *

It was left in that situation until the time of sowing. In April, as soon as the soil was sufficiently dry, the ploughing was commenced, and the seccond day, at night, the sowing was finished, with seed prapared as before stated. *In one week the onions were up*, rows were soon visible near twenty rods, and no weeds yet appeared. The operation of stirring the soil with rakes and hoes was then commenced, and the weeds were not suffered to grow during the summer. (It is a mistaken notion that it is not time to hoe a garden until it is green with weeds.) The first of September the onions were harvested, and the product was over *two thousands bushels* of fine onions from two and a half acres."

ON SOAKING MANGEL WURTZEL SEED.

J. Rapaljee says, (N. G. Farmer, vol. I. p. 149.) "I prepare half an acre of land for Mangel Wurtzel, and obtained the seed from your agent at Canandaigua. After soaking the seed one day, I commenced sowing; but rain came on, and the soil being rather clayey, it was a whole week before I could sow the remainder. The seed was soaked all this time, and suposing it was spoiled or injured, I sowed it thicker than usual, and had not enough to finish the ground. Accordingly I sent to the same place and got more seed, and sowed the remainder without any soaking; so that part of my ground was sowed with seed soaked one day, another part one week, and a third part not all.

Now for the resnlt:—The part soaked one week, came up first, and much too thickly;—the part soaked one day, came up slowly and very thinly; while the part not soaked, did not come up at all. Thus showing conclusively, the necessity of thoroughly soaking these seeds, and the little danger there is to be apprehended from soaking too long. I am confident that inattention to this subject, is the most frequent cause of the failure of the Mangel Wurtzel and Sugar Beet seeds."

William Garbutt, (N. G. Far. vol. I. 20,) says, "Much complaint is sometimes made of Mangel Wurtzel and Sugar Beet seed failing to grow. These seeds are not quite as sure of vegetation as some kinds; still, if rightly prepared, and sown when the ground is in good condition, before the weather becomes too dry, they will very seldom fail. The seed should be *soaked* in soft water, standing in a warm place, *for three or four days* before sowing. The shell of the seed is very hard, and requires a long time soaking for it to become softened so that the germ can burst it open. I have sometimes known it fail after being soaked, owing to late sowing and dry weather.".

Planting too deeply.—In vol. I. p. 97, W. R. Smith states that he "planted half an acre of Mangel Wurtzel with two pounds of seed from the Rochester Seed Store. In a few days some scattering plants made their appearance.

Well, nearly two weeks after, I was surprised to find a fair number of plants just peeping through, and from their weak and thin appearance, evidently wearied with their journey to the surface, which they never could have reached, if the soil had not been light."

Parsnip, Carrot, Celery and Parsley Seeds are all slow to vegetate, and if sown late and dry weather succeeds, they will often come up. These seeds should never be sown early, in fine soil, rolled or pressed down or kept moist. Mr. Geo. Sheffer of Wheatland, raises large quantities of carrots for feeding. He soaks the seed 48 hours, then rolls it in plaster, and when sown covers it from one half to three quarters of an inch deep.—(N. G. Far. vol. 2, p. 181.)

Cucumber, Melon and Squash seeds, seldom lose their vitality by age or otherwise, but when sown they often fail to grow, owing to the ground being cold or wet. These, and some other seeds, will invariably rot if sown too early—before the ground is sufficient warm. *Lima Beans and Sweet Corn* often fails from the same causes.

Egg Plant Seed will not vegetate in the open ground—it requires a good hot-bed.

Locust Seed must be thoroughly scalded, by pouring poiling hot water and letting it soak 24 hours. [*New Genesee Farmer.*

FLORICULTURE.

ON THE CULTURE OF GARDENIA.

THE Gardenia was so named by Ellis in honor of his friend and correspondent, A. Garden, M. D., of Charleston, in South-Carolina; it is a very beautiful genus, and most of the species are highly odoriferous.

G. Radicans is a well-known and very favorite green-house shrub; it is a native of China, and was first grown in England in the year 1804. As a greenhouse plant it has scarcely a compeer in fragrance or beauty; in its native country, too, it is very highly prized. The Japanese, as Thunberg relates, form hedges of it, and ornament their houses and the walks of the gardens with it and other species of Gardenia. This is one of the very limited class of plants suitable for window culture, and there are only three of this genus which bear the character sufficient to warrant the prenomen: these are G. Radicans, G. Thunbergia, and G. Rothmannia, the remaining species are all properly stove plants. A difficulty is often experienced in the blooming of these plants, more especially the green-house kinds; sometimes the plants do not produce any flower-buds at all, and others may bring a sufficiency of buds; but they as often fall prematurely, much to the disappointment of the fair owners, for this genus is a most decided favorite of the ladies.

It may be useful to endeavor to trace the cause of this premature fall of the flower-buds, as the knowledge of the true cause of a failure is the first and most essential step towards the application of a remedy; these plants, when in a state of nature, inhabit a portion of the globe where the seasonal changes are very great, and consequently the seasonal growth of plants equally marked. Indeed, so severe are the winters in some parts of the eastern world, and the effect of this tending to render the plants constitutionally robust, that was it not for the greater humidity of our climate, we might be justified in the expectation of acclimatizing all the plants of those countries. The effect of this has been already explained in the Florist's Journal, therefore what is now required consists chiefly in a practical view of the case. The plant, when placed in a room as a window plant, is subject to one undeviating atmosphere, the temperature of which is kept as nearly the same as possible, and through a mistaken kindness, supplied with water just as regularly: this is clearly the opposite of the plant in its natural state, for then during the summer months it has the full influence of the sun, with the benefit of the free air; and in winter, its only advantage is its annual covering of snow, just sufficient to protect it from the effects of frost, and which yields but very little humidity until it becomes thawed; and the same cause, namely the power of the sun, which supplies the plant with moisture by dissolving the

snow, acts immediately on the energies of the plant, throwing it into a growth as luxuriant, as it is sudden, and it is by this the treatment of the plant when in an artificial state should be regulated.

In the autumn, let the supply of water be gradually but certainly diminished, giving at last only just sufficient to keep the earth in the pots together; this should be continued from October till March, then let them be placed in a very gentle hot-bed, if at hand, or in a warm window or part of the green-house, but the frame is the best, the heat of which should be about 55°; the plants must not be plunged into but merely placed on the bed, and from this time increase the supply of water and air, and a good bloom will be the result. After the plants have done flowering, they should be re-potted in a mixture of loam and peat, or loam and old leaf mould, and then place them out of doors, shading them for a few days from the intense heat of the sun till they become re-established, after which they should have all the sun they can get to ripen the wood, observing to give them plenty of water while growing. By the end of September they should be removed into the house; and the autumn treatment repeated.

The remaining species are all, strictly speaking, stove plants; the finest of them is G. Florida, with its variety flore pleno; these all delight in a mixture of loam and peat, with the addition of a little fine silver sand: a good drainage is always requisite. The season for repotting is immediately after flowering; they should never be overpotted, as they always grow best when the roots are touching the sides of the pots; after repotting they will be benefitted by being placed in a cool part of the green-house: these like the others should be allowed to become dormant during the winter months, and started again in February. They may all of them be propagated by cuttings taken off in June and planted in a pot of sand and peat, and plunged in a very gentle bottom heat, covering it with a small cap glass; they strike readily, though some care is necessary to keep the glasses dry, they should be wiped once or twice a day, and all symptoms of mouldiness removed.

[*Florist's Journal.*

THE ORCHARD.

PRUNING.

If the branches of a young tree, issuing at and above the requisite height, be made, by pruning, to diverge from the trunk in every direction above the horizontal, and the interior of these be carefully kept from any interference with each other, for a few years, little pruning will ever afterwards be necessary.

Many of my remarks in this section have reference principally to orchards of the apple, the peach, and the pear, cultivated as

standards in our own highly favoured climate, and on an extensive scale, and are not intended as applicable to the admiral system of cultivating fruit trees in pyramidial form, or *en quenoville.*

The complicated system of the English for pruning the apple, pear, peach and plum, are not, in all respects, so necessary for us; they are, in part, adapted exclusively to a cold climate. It is not necessary with us to lay open and expose every part of the tree to the direct rays of the sun; the atmosphere being, in our climate, generally of itself sufficient to ripen the fruit.

Heavy pruning is seldom necessary or advisable; but when, as in the case of grafting, or heading down for a new growth, it becomes unavoidable, it should always be performed in that interval between the time the frost is coming out of the ground in spring, and the opening of the leaf.

A complete heading for any purpose should never be performed in early summer, or while the tree is in the most active stage of its growth. It causes a sudden stagnation of the juices, and induces a sort of paralysis. And if the tree does not die outright, it grows no more, or but feebly, during the remainder of the season.

Yet for that moderate pruning, which alone is generally needful June and July, and during the longest days of summer, is the very best time; for wounds of all kinds heal admirably at this period, the wood remaining sound and bright; and even a tree debarked at this season, recovers a new bark immediately.

Trees ought not to be pruned in February and March, at the time the frost is coming out of the ground. This is the season when most trees, and particularly the vine and sugar maple, bleed most copiously and injuriously. It causes inveterate canker; the wounds turn black, and the bark, for perhaps several feet below, becomes equally black, and perfectly dead, in consequence of the bleeding.

The lower side limbs of young trees in the nursery, should be gradually shortened, but not suddenly close-pruned; they are essential for a time to strengthen the trunk, and to the upright and perfect formation of the tree. [*Kenrick's New Amer. Orchardist.*

MISCELLANEOUS.

HOW CAN TOMATOES BE PRESERVED?

Mr. Snow—Among the many valuable directions you have provided for your readers, I do not observe any as to the best mode of putting up and preserving Tomatoes for winter's use. This is a vegetable that, for both health and taste, has recently become quite a favourable dish here. So far as I know, very little care has been taken in this section to preserve them. Indeed, so little attention has been given to their preservation, that many think they

can have them no longer than during the season of their growth. They are easily raised, produce abundantly, and, after a little use, all declare them to be a rich treat. Their presence on the table at any, or even with all meals of the day, is quite acceptable.

A notice from you at this time, as to the best mode for putting them up for winter, would be of service to at least one of your readers. Yours, &c., P. B. T.

—

ANSWER BY THE EDITOR.

The Tomato has long been know and used for culinary purposes in many portions of Europe, in France, Italy, Germany, Holland, and within a few years has become a general favourite in this country.

Dr. Bennett, a medical professer in one of our colleges, considers it an invaluable article of diet. He ascribes it to high medicinal properties, and declares.

"1st. That it (the tomato) is one of the most powerful deobstruents of the *Materia Medica*, and that in all of those affections of the liver and other organs where calomel is indicated, it is probably the most effective and least harmful remedial agent known in the profession.

"2d. That a chemical extract will be obtained from it, which will altogether supersede the use of calomel in the cure of disease.

"3d. That he has successfully treated serious diarrhœa with this article alone.

"4th. That when used as an article of diet, it is almost a sovereign remedy for dyspepsia or indigestion.

"5th. That persons removing from the east or north to the south or west, should by all means make use of it as an aliment, as it would in that event save them from the danger attendant upon those violent bilious attacks to which almost all unacclimated persons are liable.

"6th. That the citizens in ordinary should make use of it either raw, cooked, or in the form of a catsup, with their daily food, as it is the most healthy article in the *Materia Almentaria*."

Professor Rafinesque, of France, says: "It is everywhere deemed a very healthy vegetable, and an invaluable article of food."

Professer Dickens writes: "I think it more wholesome than any other acid sauce."

Professor Dungleson says: "It may be looked upon as one of the most wholesom and valuable esculents that belong to the vegetable kingdom."

It is considered efficient in curing indigestion and diseases of the liver and lungs. A writer in the Farmer's Register says, it has been tried by several persons, to his knowledge, with decided success. They were afflicted with chronic cough, the primary cause of which in one case was supposed to be diseased liver—in another, diseased lungs. It mitigates, and sometimes effectually checks, a fit of coughing. It was used in a dry state, with a little

sugar mixed with it, to render it more agreeable to the taste. The writer expresses a conviction, that if freely used in August and September, it would prove a complete antidote to bilous fevers.

Various are the methods which have been instituted for preparing this article for diet, which adds to the variety of taste and renders it in some one of its forms, agreeable to every individual. We give the various recipes that have come under our observation:

Daily use the Tomato. Cut up with salt, vinegar and pepper, as you do cucumbers, and eat away as fast as you can.

How to Stew Tomatoes. Take your tomato from the vine, ripe; slice up, put in the pot over the fire without water; stew them slow, and when done put in a small lump of butter, and eat as you do apple sauce. If you chose, a little crumb of bread or pulverized crackers may be added. What you have left, put away in a jar for winter.

Tomato Omelet. When stewed, beat up a half dozen new laid eggs, the yolk and white separate; when each are well beaten, mix them with the tomato—put them in a pan and beat them up; you have a fine omelet.

To keep them the year round. Take them full ripe, and scald in hot water, to facilitate the operation of taking off the skin; when skinned, boil well in a little sugar or salt, but no water, and then spread in cakes about an inch thick, in the sun. They will dry enough in three or four days to pack away in bags, which should hang in a dry room.

How to Pickle Tomatoes. Pick them when they are ripe. Put them in layers in a jar, with garlicks, mustard-seed horse-radish, spices &c. as you like, filling up the jar; occasionally putting a little fine salt, proportionally to the quantity laid down, and which is intended to preserve the tomato. When the jar is full, pour on the tomatoes cold cider vinegar (it must be pure) till all is covered, and then cork up tight and set away for winter.

To Make Tomato Preserves.—Take them while quite small and green—put them in cold clarified syrup, with an orange cut in slices to every two pounds of tomatoes. Simmer them over a slow fire for two or three hours. There should be equal weights of sugar and tomatoes. If very superior preserves are wanted, add two fresh lemons to three pounds of tomatoes—pare thin the rind of the lemons, so as to get none of the white part; squeeze out the juice, mix the parings, juice and cold water sufficient to cover the tomatoes, and put in a few peach leaves and powdered ginger tied up in bags. Boil the whole gently for three fourths of an hour, take up the tomatoes, strain the liquor, and put with it a pound and a half of white sugar for each pound of tomatoes. Put in the tomatoes and boil them gently till the syrup appears to have entered them. In the course of a week, turn the syrup from them, heat it scalding hot, and turn it on to the tomatoes. Prepared in this way, they resemble West India sweetmeats. [*Western Farmer.*

MAKE YOUR OWN BROOMS.

"Take care of the pennies, and the pounds will take care of themselves," is an old maxim, but it cannot be borne in mind too much. Brooms may be small affairs to discourse about, in the estimation of some persons; but it is only by economizing in the thousands of *small* articles of daily use, that you can ever accomplish any extensive system of economical reform.

To a great extent, we purchase our brooms from abroad. It is so small an affair, that no one thinks, when he pays his thirty-seven and a half cents for a broom, how great a source of expenditure this is in the aggregate; but, when we recollect how many of these articles are consumed by a family in the course of a year, and how many families there are in the State that by those of foreign manufacture, the drain from this State, for this one article, according to our estimate, is more than $30,000—and we allow only three brooms per annum to each family. Here, then, is the sum of at least $30,000 annually sent out of the State for brooms—a sum greater, perhaps, than the whole amount of real money now in the State.

We advise every person, therefore, that has a garden or patch of any sort, to plant a portion of it in *broom corn*.

In the northern part of the country, to which we have been in the habit of sending for almost every thing, they carry on the trade of raising the broom corn and making the brooms, on an extensive scale.—We read of one broom maker, who raised on eight acres, the corn for 4800 brooms. This, at 37½ cts. a piece, makes $1800. A pretty handsome sum this, we Southerners pay, for what might be produced, with a little labor, on eight acres!

The broom corn will grow very thick—the thicker the better; but the ground should be well manured.—The seed has a highly nutritious quality. If ground up, it makes excellent food for stock—especially for milch cows, giving to butter a fine color and taste. It is said by those who cultivate it at the North, that, for feeding to stock, it is 50 per cent. better than oats.

Again we say—raise your own broom corn and have your own brooms made. One great advantage you will have in this, that you will have a better article. An article made for use is always superior to one made for sale. Every thing we get from the North is made for sale—"*for the Southern market*"—that is the usual phrase—and the meaning of that phrase is simpy "*not worth shucks.*"

[*South-Western Farmer.*

TO PROMOTE AGRICULTURE IN SOUTH-CAROLINA.

[Published by Request.]

To the Members of the Legislature of South-Carolina:

GENTLEMEN,—The last year I had the honor to address you on a topic of paramount interest to your constituents. Allow me again to solicit your attention to the same subject. I presume, it will not be contested, that Agriculture is the basis of our prosperity, and that all proper means to further its progress, or to remove obstacles in the way of its advancement, should unhesitatingly be adopted. It now appears to be generally admitted, that to continue the raising of Cotton to the entire exclusion of some, and the partial culture only of other valuable crops, would be a pernicious error. The golden field to which self-interest invited us about forty years ago, no longer exhibits a remunerating return. Guided by the same faithful monitor, our present course is so obvious, that an argument to show the necessity of pursuing it, would be a work of supererogation.

There was a time when this State was an exporter of Grain. The extension of the Cotton culture soon effected an important, and, in reference to the community, a disadvantageous change in our system of husbandry. From a statement drawn from the late census, I infer, that about three and a half millions of acres are appropriated to the production of Corn, and from evidence upon which I rely, South-Carolina has purchased of this article, since 1830, at the annual average rate of 350,000 bushels. It is apparent from these data, that if only one-fourth of a bushel more per acre to the whole number of acres in tilth were grown, our granaries would not only be re-established at home, but that we should again be enabled to meet the foreign demand to the amount of over 500,000 bushels for this great necessary of life? Cannot this be done? To the experienced it is well known, that 100 acres of Cotton judiciously manured, assuming the soil to need artificial aid, will realize a larger product in a series of years than 200 acres, where no expedients for enriching the land are resorted to. Hence, whilst the consequences of the general adoption of the meliorating process would be the usual income from the planter's main crop, his stock of Provisions, independently of other decided benefits, which I will not pause to enumerate, would be vastly augmented. To bring about this desirable state of things; to preserve confidence to the Cotton grower, whose alarm and embarrassments may in part be traced to his credulity and listless energy; and, by the operation of wise and salutary regulations, to insure the means of a comfortable subsistence to every yeoman who will take hold

of the plough and not look back, the aid of your influence, gentlemen, I scarcely need assure you, can at this time be most beneficially extended.

Among the preliminary measures entitled to consideration, the formation of local Agricultural Societies, is believed to be the most prominent, I am aware that the public mind is still restless and disquieted. He would, therefore, richly merit a civic wreath who should succeed in arousing the cultivators of the soil to a just sense of the dangers they have escaped, and directing their untiring exertions to the slow but only certain mode of supplying their temporal wants—to industry, temperance, and economy. It is evident that misfortune has already exerted its salutary power over many, still, I fear, that a few of our Agricultural brethren, unmindful of the past, and stimulated by the wild gambling spirit which has spread devastation through the land, are yet struggling with locomotive speed to be classed among the opulent, or, if ruin ensue, to be released from all their obligations by the sponge of a Congressional statute.

A strong feeling on the subject of their true interest, from which the minds of the planters have too long and mischievously been estranged, by the concentration of intelligence, emanating from the establishment of neighborhood Societies, would soon be instrumental in effecting the happiest results. There are now twenty-six* Agricultural Societies in South-Carolina. To organize one in

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* 1. State Agricultural Society of South-Carolina.
2. St. John's Colleton Agricultural Society, Wm. G. Baynard, President.
3. Agricultural and Police Association of St. Andrew's, Winborn Lawton, President.
4. Beaufort Agricultural Society, William Elliott, President.
5. Agricultural Society of South-Carolina, J. H. Tucker, President.
6. Agricultural Society of Barnwell, Hon. Angus Patterson, President.
7. Agricultural Society of Sumter, Hon. John P. Richardson, President.
8. Monticello (Fairfield) Planters' Society, Hon. William Harper, President.
9. Cambridge (Abbeville) Agricultural Society, Gen. Gillam, President.
10. Agricultural Society of Pendleton, Edward Harleston, President.
11. Fairfield Agricultural and Horticultural Society, Osmund Woodward, President.
12. Wateree (Kershaw) Agricultural Society, Col. James Chesnut, President.
13. Agricultural Society of Greenville, Hon. H. G. Johnson, President.
14. Agricultural Society of St. Helena, Jos. J. Pope, President.
15. Agricultural Society of Abbeville, Gen. George McDuffie, President.
16. Fishing Creek Agricultural Society, (Chester,) Alexander Pegan, President.
17. Agricultural Society of St. Luke's, Dr. Jeremiah Fickling, President.
18. Agricultural Society of Newberry, Hon. John B. O'Neal, President.
19. Agricultural Society of Spartanburg, Stephen Lee, President.
20. Agricultural Society of Laurens, Col. Patilow Farrow, President.
21. Rocky Creek Auxiliary Society, John Moore, President.
22. Milton (Laurens and Newberry) Agricultural Society, Beaufort F. Griffin, President.
23. Pee Dee (Cheraw) Agricultural Society, Gen. James Gillespie, President.
24. Agricultural Society of York, John Springs, President.
25. Agricultural Society of St. Paul's, Hon. J. P. Grimball, President.
26. The Black Oak Agricultural Society, (St. John's Berkley,) Samuel Dubose, President.

every District and Parish, and to induce all of them to be represented* in the State Society, at its annual meetings, are objects which I am specially enjoined† to use my best efforts to accomplish. The collecting of information, adapted to localities, to be communicated in the form of essays or memoirs, is, through you, respectfully asked of every Society.

In reiterating my request, that you will give your early attention to this matier, allow me to say, that you will not only confer an obligation on the patriotic body over which I have the good fortune to preside, but render an essential and perhaps a permanent service to the State, whose welfare we are severally urged by every consideration to promote, uphold and perpetuate.

I have the honor to be,

Your obed't servant,

WHITEMARSH B. SEABROOK,
President State Ag. Society of S. C.

Edisto Island, June 13, 1842.

Editors friendly to the cause of Agriculture, are requested to give the above an insertion.

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* "The Society will receive as members at its annual meeting," (4th Monday in November) "five delegates from a District or neighborhood Society," 4th article, Con. S. A. S. of S. C.

† "*Resolved*, That the President be requested to continue his exertions in procuring the formation of local Societies, and inducing them, and individuals capable of communicating useful information, to present to this Society, at its annual meetings, essays adapted to localities."

GARDENER'S CALENDAR FOR JUNE.

VEGETABLE GARDEN.

Sow cauliflowers, brocoli, cabbages, carrots, tomatoes. Plant snap-beans, okra. Transplant celery, cabbages, leeks. Prick out cauliflowers, brocoli and celery.

Remarks.—This month is generally very dry and hot, and all of the crops recommended to be sown now, must be protected from the sun, most of them should have been sown in April, and it is only in case of failure, or omission, that they should now be sown; the month may be considered bad for the sowing of seeds generally.

Agricultural and Horticultural
REPOSITORY.
NO. 81 EAST-BAY, CHARLESTON, (SO. CA.)

FRESH AND GENUINE

GARDEN AND FIELD SEEDS.

THE SUBSCRIBER *has received his Fall supply of GARDEN and FIELD SEEDS, consisting of all the varieties enumerated below, and several others which are new. Among them the highly prized WHITE BELGIAN CARROT, which unites the flavor of the Carrot and Parsnip, (for an account of which see current vol. So. Agr., p. 411.) Also, WINTER RYE, said to be equal for pasturage to the Carolina Rye; and SEED BARLEY.*

Twenty-five varieties of PEAS, among which are Cedo Nulli, Extra Early Dwarf, Early Warwick, Knight's Marrowfat, Blue Scymetar, Dwarf Sugar of Holland, Spanish Marrow; and all of the old varieties.

BEANS—nineteen varieties, among which are Dutch Dwarf, Davenport, China, Royal Dwarf, Horticultural, &c. &c.

BEETS—eight varieties, consisting of Early Turnip (red and yellow,) Long Blood, Yellow Castelnanderry, Red do., Silesia or Sugar, &c. &c.

CABBAGES—twenty-nine varieties, among which are Early Paris Superfine, Nonpareil, Hope, Vanack, Early York, Ox-heart (large and small,) Battersea, St. Dennis, Early Dutch, Large do., Large Pancallier Savoy of Tours, Monstrous French Savoy, &c. &c.

BROCOLI—three varieties.

CAULIFLOWERS—six varieties, viz.: Tender or Spring, Half-hardy for autumn, Hardy of Paris, Dutch Hardy, Early and Late.

CARROTS—nine varieties. PARSNIPS—two varieties. CELERY—seven varieties. CRESS—three varieties. LETTUCE—nine varieties. CUCUMBER—four varieties. SQUASHES—seven varieties. MELONS *Musk*—nineteen superior varietles *from France*, embracing the Honfleur, Canteleups, Sugar, Persian, Winter, and many others in high estimation. Also, six varieties of American. WATER-MELONS—three varieties. KOHL RABBI—four varieties.

Together with many new and superior varieties of VEGETABLES not enumerated above, for which we refer to our printed catalogue.

ALSO,

FLOWER SEEDS, DAHLIA ROOTS, (some splendid varieties,) BULBOUS ROOTS, ROSES, GERANIUMS, GREEN-HOUSE PLANTS, FRUIT TREES,

IMPLEMENTS.

His STOCK OF IMPLEMENTS has been considerably increased, and embraces a larger variety than has ever been offered in this market. His PLOUGHS are from the most celebrated makers of New-England, and have taken numerous premiums; in addition to which, he has all of the MORE COMMON KINDS, and can accommodate his customers with Ploughs from $3 to $12, according to size and quality. He has also a LARGE ASSORTMENT OF STRAW-CUTTERS and CORN-SHELLERS, with EVERY OTHER IMPLEMENT REQUIRED on the FARM or PLANTATION.

Printed Catalogues will tebe furnished gratis on applicatie*v (*nos tpaid,) and all Orders promptly execuord. SEEDS and IMPLEMENTS carefully packed and sent by Steam-boat Rail-road, to an y part of this State, North-Carolina or Georgia.

November 4th, 1841. J. D. LEGARE.

TO CORRESPONDENTS AND SUBSCRIBERS.

Account of Monies received to the 1st of June, not before acknowledged.—Charles F. Neyle, 1842; T. M. Gourlie, do.; A. J. Anderson, 1841; J. Stevens, 1842; R. Rogers, 1842; J. Thompson, 1842; St. Luke's Agricultural Society, 1842; J. Edwards Gibbes, 1842; W. S. Tyler, 1842; Col. J. N. Williams, 1841 and 1842; J. F. Drayton, 1842; John Townsend, 1841 and 1842; S. Johnston, 1842; Thos. Porcher, 1842; Wm. Cain, 1841 and 1842; W. O. Keenan, 1840 and 1841; Daniel Heyward, 1842; Estate of J. Heyward, 1841; David Gaillard, 1842; Miss M. G. Porcher, 1841 and 1842; W. R. James, 1840 and 1841; Wm. Barnwell, 1842.

Received by the Publisher since the last No.—Mr. Francis M. Weston, 1841 and 1842; J. T. H. White, 1842; Alexander Moultrie, 1841 and 1842; Col. J. J. Moore, 1842; Wm. Pope, 1842; Dr. Richard Furman, 1842; Col. A. P. Hayne, 1842; Capt. Leonard White, 1842; J. M. Taylor, 1840, 1841 and 1842; Dr. Henry Ravenel, 1842; P. C. Grimball, 1842; Dr. M. Waring, 1842; J. G. Barnwell, for Beaufort Agricultural Society, in full for 1840, 1841 and 1842; R. T. Lawton, 1842.

☞ **Payment is due on or before the delivery of the *June Number*.**

NOTICE.

The Subscriber finding it inconvenient to attend to any other than the Editorial duties, requests that all letters on business be directed to the Publisher of this Journal, Mr. A. E. Miller, who will also attend to all the business transactions relating to the Southern Cabinet or Southern Agriculturist.

Dec. 3*d*, 1841. J. D. LEGARE.

CHEMICAL ANALYSIS OF SOILS,

MARLS, LIMESTONES, MINERAL WATERS, AND ORES GENERALLY.

PROF. SHEPARD of the South Carolina Medical College, begs leave to inform the public that he has fitted up a department in his Laboratory expressly for the performance of the above mentioned undertaking: and that all commissions of this nature, with which he may be favored, will receive his prompt, personal attention.

Address Prof. C. U. SHEPARD, Medical College, Charleston.